SPAARS evidence?

An empirical investigation into SPAARS applied to PTSD

Andrew John Summers

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Declaration

I declare that:

1. I have composed this thesis.

2. This thesis is my own work.

3. This work has not been submitted for any other degree or professional qualification.

Andrew John Summers

Acknowledgements

I would like to thank all the participants, for their willingness to share their experiences of traumatic events with me.

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Finally, I would like to thank Lorraine. She knows why.

Abstract

Empirical evidence for the SPAARS (Schematic, Propositional, Associative and Analogical Representational Systems) model (Power & Dalgleish, 1997, 1999; Power, 1997, 1999), as applied to post-traumatic stress disorder (PTSD) by Dalgleish (1999, submitted) was investigated. An opportunistic sample of 12 participants was recruited from a specialist service for PTSD. Participants had experienced a variety of traumatic events. Co-morbidity and PTSD severity were representative of the service's normal clinical population. Participants were assessed up to 3 times. An interview to assess schematic themes was devised for this study and standardised measures of PTSD and other symptomatology were also administered. The interview was found to have reasonable inter-rater reliability. The combined results of the analyses provided initial support for the utility of the SPAARS model applied to PTSD. Particular Schematic-level representations were identified, which were associated with PTSD and other symptomatology. Participants were found to experience a wide range of aversive emotions and fear was not generally the dominant emotion reported. Greater negative emotionality, rather than greater fear, was associated with increased symptomatology. Some theoretical and clinical implications of these findings are discussed.

Introduction

Aims

This thesis aims to investigate whether multi-level theories of emotion and emotional disorder can improve our understanding of the reactions of individuals who have experienced a traumatic event and the change processes during psychotherapy for these individuals. It will do so firstly by using a multi-level emotion theory framework to report on commonalities within a clinical sample of participants who have experienced a psychological reaction to a traumatic event and are in active treatment within a specialist centre. Secondly, using a longitudinal design, this thesis will describe some of the changes that participants report over the course of therapy.

This introduction will therefore review the main clinical characteristics of post-traumatic stress disorder (PTSD) and psychological theories of PTSD. Both of these areas have substantial research literatures, which means that this review is necessarily selective and focuses on findings that are felt to be most relevant.

Characteristics of PTSD

Although reports in the literature of psychological reactions to trauma have a long history (e.g. Freud, 1919; Rivers 1920; Trimble, 1981), it has been suggested that rapid development in knowledge about PTSD occurred during the 1980s and 1990s (e.g. Yule, Williams & Joseph, 1999), which saw the introduction and subsequent revision of PTSD as a diagnostic classification for psychiatric disorder in the Diagnostic and Statistical Manual – Third Edition (DSM-III; American Psychiatric Association, 1980), Third Edition – Revised (DSM-III-R; APA, 1987) and Fourth Edition (DSM-IV; APA, 1994). PTSD was also described in similar terms to DSM-IV in the tenth revision of the World Health Organisation's International Classification of Diseases (ICD-10; WHO, 1993).

DSM-IV and ICD-10 criteria for PTSD

Both DSM-IV and ICD-10 agree that one of the defining criteria for a diagnosis of

PTSD is the experience of a severely traumatic event. DSM-IV requires that:

> "The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others." (APA, 1994, p. 467).

ICD-10 suggests that:

> "This disorder should not generally be diagnosed unless there is evidence that it arose within six months of a traumatic event of exceptional severity." (WHO, 1993; p. 148).

Both ICD-10 and DSM-IV agree that persistent and distressing re-experiencing symptoms are central to meeting criteria for PTSD. DSM-IV describes possible re-experiencing symptoms more comprehensively and these can include:

> "Recurrent and intrusive distressing recollection ... including images, thoughts or perceptions ... distressing dreams ... [a]cting or feeling as if the traumatic event were recurring ... [i]ntense psychological distress at exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event ... [p]hysiological reactivity ... to ... cues that symbolise or resemble an aspect of the traumatic event." (APA, 1994, p. 468).

DSM-IV and ICD-10 disagree on the importance of other symptom clusters in diagnosing PTSD. In addition to re-experiencing, DSM-IV also requires the presence of persistent avoidance and increased arousal for diagnosis, while ICD-10 does not. Avoidance can include:

> "Efforts to avoid thoughts, feelings or conversations. ...activities, places or people... [i]nabilty to recall an important aspect ... diminished interest or participation in significant activities ... detachment or estrangement ... [r]estricted range of affect ... [s]ense of foreshortened future" (APA, 1994, p. 468).

Symptoms of increased arousal identified by DSM-IV can include disturbed sleep, anger, concentration problems, hypervigilance to possible danger, and increased reactivity to being startled.

DSM-IV also specifies three different time courses for PTSD reactions: acute (symptoms last less than three months), chronic (greater than three month duration) and delayed onset (at least six months after the event). Chronic PTSD can persist for

many years. For example, Kilpatrick, Saunders, Veronen, Best & Von (1987) found that 17 percent of sexually assaulted women surveyed 17 years later met criteria for PTSD. Delayed onset PTSD may have been somewhat neglected in the literature because a significant proportion of the research in the 1980s and 1990s that helped to define PTSD used a methodology of following up survivors of disasters. Over time, individuals who were not experiencing PTSD would tend to drop out of studies, and many studies would not follow up survivors for long enough to identify cases of delayed onset PTSD. Research into delayed onset PTSD has therefore had to rely on the methodologically weaker approach of retrospective accounts. This methodology has suggested that, after ruling out cases that appear to be due to delayed onset but are actually due to delays in presenting for help, around 10 percent of PTSD cases in combat veterans were delayed onset (Solomon, Kotler, Shalev & Lin, 1989). One of the challenges for theories of PTSD has been to try to explain the variation in time course (Dalgleish, submitted) and this issue will be returned to later in this review.

PTSD can be highly disabling, particularly in its chronic form and these disabling effects can extend beyond the symptoms associated with the diagnostic classification of PTSD. Foa, Keane & Friedman (2000) note that:

> "Some patients with chronic PTSD develop a persistent incapacitating mental illness marked by severe and intolerable symptoms; marital, social and vocational disability; as well as extensive use of psychiatric and community services." (p. 5).

McFarlane (1987) and Goenjian (1993) described adverse effects on family and general interpersonal functioning in survivors of civilian disasters. Interpersonal problems have also been reported in combat veterans (e.g. Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar & Weiss, 1990). The importance of social support in protecting individuals from mental health problems is well established (e.g. Brown & Harris, 1978 for depression). Joseph (e.g. Joseph, 1999; Joseph, Andrews, William & Yule, 1992) has argued strongly that social support is an essential factor in determining whether individuals can survive traumatic experiences without developing PTSD. However, there is an issue of direction of causality here. Clearly, many of the symptoms associated with PTSD, such as avoidance of social situations, emotional numbing and increased irritability, could be expected to make it more

difficult for the individual to access social support. While Joseph's conceptualisation appears to neglect some of the more intrapsychic aspects of PTSD, an issue that will be discussed in more detail below, it is worth noting that a meta-analysis of risk factors for developing PTSD following trauma exposure suggested that social support post-trauma had the highest weighted average effect size (Brewin, Andrews, & Valentine, 2000).

Horowitz (1986; 1997) noted enduring personality changes in individuals who experienced traumatic events. Janoff-Bulman (e.g. 1989; 1992) has drawn attention to the ways in which trauma can affect individuals' beliefs about themselves and the world in which they live. Both of these perspectives will be discussed in more detail under the heading of theories of trauma, however it is worth noting two things at this stage. Firstly, these effects increase the suffering of individuals who experience trauma in ways that are not captured within the DSM-IV or ICD-10 diagnoses. Secondly, these changes to the individual may again affect their ability to elicit social support, the importance of which was highlighted in the preceding paragraph.

Co-morbidity is another factor that significantly increases the difficulties of individuals with PTSD. McFarlane and Papay (1992) reported that 77 percent of Australian fire fighters meeting criteria for PTSD also met criteria for one or more additional psychiatric problems. Foa et al. (2000) observe that 80 percent of patients with PTSD will also have co-morbid problems, typically depression, anxiety or substance abuse. High levels of depression following trauma have been consistently reported (e.g. Loughrey, Bell, Kee, Roddy & Curran, 1988; North, Smith & Spitznagel, 1994). Substance abuse problems have been reported in both combat veteran (Keane, Caddell, Martin, Zimering & Fairbank, 1983; Solomon, Mikulincer & Kotler, 1987) and civilian trauma (Gleser, Gren & Winget, 1981; Goenjian, 1993) populations and there is evidence for both populations that this does not simply reflect substance abuse behaviour that was present before the trauma (Kulka et al., 1990; Joseph, Yule, Williams & Hodgkinson, 1993). PTSD is associated with an increased risk of suicide (e.g. Foa et al., 2000). However, given the high level of co-morbidity with depression and substance abuse, themselves risk factors for

suicide, it is unclear how much of this increased risk can be attributed to PTSD alone.

A further point to make about co-morbidity is that the developmental pathways between PTSD and other disorders remain unclear. Shalev and Yehuda (1998) prospectively studied 211 consecutive Emergency Room admissions and found that co-morbidity increased significantly over time. In addition to suggesting that early intervention would be beneficial, this raises some interesting questions about the development of PTSD and other disorders over time. Shalev and Yehuda's (1998) findings might suggest that secondary symptomatology is accruing over time, for example that an individual becomes depressed because of the effects of re-experiencing, increased arousal and avoidance on his or her life. However, McFarlane and Papay (1992) propose a contrasting direction of causation, namely that co-morbidity can be such a drain on an individual's resources that it traps him/her in chronic PTSD.

Related to the issue of co-morbidity, although PTSD is the most commonly investigated sequelae of trauma, there is evidence that individuals may experience other reactions with similar or even greater frequency. For example, Shalev and Yehuda (1998) report that of their sample of Emergency Room admissions, 16 individuals were diagnosed as having PTSD, 11 had major depressive disorder, and 19 had a non-PTSD anxiety disorder, while 24 individuals showed co-morbidity at four months post-trauma. This suggests that in fact, following exposure to a traumatic event, for those individuals who go on to develop psychological problems, the most common reaction is not PTSD, but rather some other disorder. This has some interesting implications in terms of the underpinnings of theories of PTSD, which have perhaps tended to (understandably) neglect trying to understand why individuals may go on to develop disorders other than PTSD. This point will be returned to in the section on theories of PTSD. Clinically, it should also be noted that the issues of differential disorder pathways and co-morbidity following trauma will often increase treatment complexity. Therefore, it is important that models of PTSD adequately capture this complexity.

Controversies regarding PTSD diagnosis

Following on from issues of co-morbidity, it should be noted that a number of concerns have been raised about the diagnosis of PTSD itself. Clearly, if PTSD is an unreliable diagnosis then this will place a limit on the validity of research based on this concept.

Firstly, PTSD, like all psychiatric diagnoses, is a product of its historical and cultural context. The establishment of PTSD as a diagnostic category was heavily influenced by the experience of working with Vietnam veterans and the need to provide a framework for services for these individuals. One effect of this was that PTSD was not initially acknowledged in populations other than combat veterans (e.g. Herman, 1992), which meant that it was some time before research efforts in different populations were integrated.

Secondly, although the requirement for an obviously stressful index event may seem essential to diagnose a condition which is seen by definition as a reaction to an event outside normal experience (at least for Type I trauma), it should be noted that the requirement for a single clear precursor is out of keeping with other psychiatric diagnoses. This may help to explain controversies over what precisely can constitute an index event. Recently Joseph (2003) suggested that PTSD could be caused by childbirth, while acknowledging that this will be controversial because even difficult childbirths are seen as normal events. In a similar vein, some researchers have suggested that persistent and distressing re-experiencing, which is central to PTSD in both DSM-IV and ICD-10 definitions, can be seen in individuals who experience stressful events that are not of the magnitude required for PTSD diagnosis in these classification systems, such as prolonged bullying at work (e.g. Prolonged Duress Stress Disorder, Scott & Stradling, 1994).

Thirdly, not all researchers accept the classification of PTSD as an anxiety disorder. The presence of other highly distressing emotions such as shame and anger have been frequently observed (e.g. Andrews, Brewin, Rose & Kirk, 2000). It has been suggested that these can lead to particular difficulties in treating individuals (e.g. Brewin, 2001; this issue will be discussed in more detail below in the section on

psychological treatments for PTSD). Dalgleish, Power and Bolton (submitted) suggest that the framework of PTSD symptomatology can be experienced with other emotions such as anger, disgust and sadness.

Fourthly, there is overlap between the symptoms of PTSD and other disorders, such as anxiety and depression. This, combined with the high degree of co-morbidity associated with PTSD (e.g. Foa et al., 2000) may confuse the clinical picture and lead to debates over what is part of the 'core' PTSD disorder, if such a thing exists, and what is not. Since meeting DSM or ICD criteria for a disorder is frequently an inclusion criterion in research, this may lead to a misleading picture of the reality of the effects of trauma on individuals. On a related note, Yule et al. (1999) note that "survival guilt" formed part of the DSM-III definition but was removed from later definitions and suggest that this demonstrates how the consensus process of reaching DSM definitions may lead to an overly narrow focus.

Despite these concerns with the validity of PTSD as a diagnostic classification, this review will follow common practice in continuing to use the term as a useful shorthand that represents broad consensus within the literature. However, these concerns should be borne in mind and they may help to explain some of the variation in the literature discussed.

Incidence and prevalence of PTSD

Post-traumatic stress disorder is a relatively common mental health problem. In the general population, the US Epidemiological Catchment Area project suggested a lifetime prevalence of 7.8 percent (Kessler, Sonnega, Bromet, Hughes & Nelson, 1995), while Foa and Rothbaum (1998) suggested that the lifetime prevalence might be up to 9 percent. Lifetime prevalence rates for women are approximately twice that of men (Kessler et al., 1995; Foa et al., 2000). Breslau, Davis, Andreski and Peterson (1991) suggested that as many as a third of individuals who develop PTSD would experience chronic difficulties, based on their work with young urban adults in the USA.

It is interesting to contrast the above figures regarding prevalence of PTSD with information regarding exposure to traumatic events. Kessler et al's (1995) national survey of individuals in the United States suggested that approximately 60 percent of men and 50 percent of women had experienced at least one traumatic event that would meet DSM-IV criteria. Although there were a number of methodological limitations on Kessler et al's (1995) study, such as the use of lay interviewers, similar or even higher figures have been reported by other studies (e.g. Norris, 1992; Kilpatrick & Resnick, 1993; Breslau, Kessler, Chilcoat, Schultz, Davis & Andreski, 1998). These studies make it clear that many individuals who are exposed to traumatic events do not subsequently develop PTSD. In a literature review, Green (1994) suggested that in the normal population, between 25-30 percent of individuals would develop PTSD following a traumatic event. Breslau et al. (1998) provide the more conservative estimates of 9-13 percent of women and 6.2 percent of men developing PTSD from a range of traumatic events, based on a community sample of adults in the Detroit area.

Despite inconsistent findings of an exposure-effect relationship between the intensity of the traumatic event and the likelihood of subsequent PTSD (e.g. compare Yule et al., 1999 with McNally, 2003), prevalence can be significantly higher in groups exposed to specific traumatic events. For example, Boyle, Bolton, Nurrish, O'Ryan, Udwin & Yule (1995; cited in Yule et al., 1999) found that over half the survivors of a cruise ship sinking developed PTSD. Foy (1992) reported that between 15 - 50 percent of individuals exposed to intense combat situations developed PTSD. Violent and or sexual assault has been associated with levels of PTSD of up to 21 percent in the aforementioned Detroit community sample (Breslau et al., 1998).

Vulnerability factors in PTSD

Findings of considerable variation in responses to trauma have generated considerable research interest in explaining individual differences in vulnerability to PTSD (e.g. Yule et al., 1999). These differences are usually broken down into pre-, peri-, and post-trauma factors (e.g. Foa & Rothbaum, 1998).

Two recent meta-analyses have reviewed the evidence for a range of factors related to PTSD outcomes (Brewin et al., 2000; Ozer, Best, Lipsey & Weiss, 2003). The significant pre-traumatic factors identified are wide-ranging, including gender, age, education, adverse life events, poor physical health and financial problems. Pre-morbid psychiatric problems can have an adverse effect, although this is not a universal finding. Family psychiatric history has also been implicated. Previous exposure to trauma is another significant factor, particularly in the case of childhood abuse.

Peri-traumatic factors include the nature of the trauma and findings related to this have already been discussed. Bereavement is particularly associated with poor outcome. The severity of injury and the perception that the individual's life was at risk are also significant factors. Participation in atrocities has been associated with poorer outcome. Dunmore, Clark and Ehlers (1999) describe within a cognitive framework the role of "mental defeat", a sense that the individual is entirely at the mercy of events and that death would be a release, and "mental confusion", where the individual is unable to make sense of events. Both of these appraisals are associated with poorer outcomes.

Consideration of these individual differences in explaining whether individuals will develop PTSD or not fits well with the (arguably) dominant contemporary diathesis-stress paradigm of emotional disorder. A number of the vulnerability factors identified above fit well into the (again arguably) dominant cognitive-behavioural model. Therefore, individual differences would appear to have intuitive appeal, which may explain their popularity in the research literature. This thesis is based on similar conceptual grounds, in attempting to investigate whether individual differences in representations of trauma are important. The theoretical background to this will be discussed later in this introduction, however, it may be worthwhile considering at this point the impact on this paradigm of the findings of both the recent meta-analyses (Brewin et al., 2000; Ozer et al., 2003) that pre-traumatic factors account for a relatively small proportion of the variance.

Brewin et al's (2000) meta-analysis suggested that peri- and post-trauma factors were the most important determinants of PTSD, with trauma severity, life stresses post-trauma, and lack of social support post trauma having the highest effect sizes (weighted average effect sizes 0.23, 0.40 and 0.32 respectively). This would classify them as having small to moderate effect sizes in line with Cohen (1988). In contrast, pre-trauma variables such as psychiatric history, childhood abuse, or previous trauma have only small effect sizes (weighted average effect sizes 0.11, 0.14 and 0.12 respectively). Although the pre-trauma factors investigated by Brewin et al. (2000) are not psychological representations or appraisals in themselves (such as the concept of mental defeat discussed above, invoked by Dunmore et al., 1999), they include factors that would be expected to have a significant effect on the way that the individual makes sense of and interprets the world.

Ozer et al. (2003) report broadly similar findings, suggesting that significant factors can be split into two groups based on their effect sizes. The first group of factors are those more distant in time from the trauma and relate to the individual experiencing the traumatic event, including variables such as prior adjustment, prior history of trauma, and family psychiatric history. These factors have a small average effect size of 0.20 or less. The second group are more immediate to or follow the trauma, comprising variables such as perceived threat to life, peri-traumatic dissociation, and perceived support. These factors have a small to moderate effect size, averaging 0.20 or higher (highest average effect size 0.35, for peri-traumatic dissociation).

Interestingly, the two studies differ significantly on the effect size for social support, with Ozer et al. (2003) reporting an average effect size of 0.28 versus 0.40 in the Brewin et al. (2000) study. This appears to be mainly due to the more stringent inclusion criteria in the Ozer et al. (2003) study. However, Ozer et al. (2003) concur with Brewin et al. (2000) that social support is clearly an important factor in PTSD outcomes.

Therefore, from the meta-analyses findings it might be argued that the experience of trauma, additional stressors post-trauma, and the social support that an individual receives are so significant that in an adverse combination they can overwhelm

virtually any individual. In other words, within a diathesis-stress paradigm, the stress component is far more important than the diathesis. This might suggest that efforts to identify psychological factors that make individuals vulnerable to trauma, as in this thesis, are of limited value.

In response to this argument, it is important to consider some specific methodological problems that Brewin et al. (2000) and Ozer et al. (2003) acknowledge within their studies. Firstly, both note that effect sizes for the factors that they examined tended to vary significantly across different studies. Therefore, the risk factors did not always have the same predictive value. For example, Brewin et al. (2000) noted that only the pre-trauma factors of psychiatric history, childhood abuse and family psychiatric history were stable across studies. Trauma severity was the most variable, with effect sizes ranging from -0.14 to 0.76 and seemed to be particularly affected by sample type, having a greater effect in military samples. Ozer et al. (2003) comment extensively on the heterogeneity of their dataset, for example in range of traumatic events, intensity of exposure, and method of assessment and suggest that this accounts for much of the variability that they too found.

Secondly, most of the studies in both meta-analyses were retrospective. Brewin et al. (2000) note that retrospective reporting will tend to inflate reports of trauma intensity and post-trauma variables and found that the effect sizes reported for trauma severity were significantly higher in retrospective than prospective studies. They were unable to test this for additional life stressors and social support due to insufficient prospective studies for these variables. In contrast, reports of childhood trauma and childhood adversity were not affected by studies being of prospective or retrospective design. However, Brewin et al. (2000) were not able to test whether this applied to all pre-trauma factors, again due to the limited number of prospective studies. Thirdly, Brewin et al. (2000) suggest that there may be mediating variables that affect the impact of pre-trauma factors, such as shame mediating the association between childhood abuse and PTSD (Andrews et al., 2000).

Overall, Brewin et al. (2000) therefore conclude that risk factors for PTSD are still poorly understood and do not rule out "a model in which pre-trauma factors interact with trauma severity or trauma responses to increase the risk of PTSD" (p. 756). Although Ozer et al. (2003) place greater emphasis on the role of peri-traumatic dissociation and peri-traumatic emotionality in subsequent PTSD outcome, they note that individuals' past experiences have sufficient effect sizes to deserve empirical investigation. They further suggest that these experiences may influence the meaning of the trauma to the individual, in particular their experience of loss, and this may in turn have an effect on the peri-traumatic variables of dissociation and emotionality. These conclusions will be borne in mind during our discussion of psychological models of PTSD.

Two final areas of the literature will be reviewed before models of PTSD are considered. These are, firstly, PTSD and information processing and, secondly, effective treatments for PTSD. The reviews of both these complex areas are necessarily brief but it is hoped that they will provide an indication of some of the issues that a comprehensive model of PTSD would need to address.

Information processing and PTSD

Buckley, Blanchard and Neill (2000) reviewed empirical findings in this area. Efforts have been made to discover whether individuals with PTSD show an attentional bias towards trauma-related information. Both preconscious (otherwise known as automatic) and conscious (or strategic) levels of processing have been investigated, using a variety of auditory and visual methodologies, such as the emotional Stroop paradigm (see Buckley et al., 2000). Mixed findings have been obtained and firm conclusions are difficult to draw because of issues such as different trauma populations and methodologies, and small sample sizes. For example, Harvey, Bryant and Rapee (1996) found a preconscious attentional bias for visually presented threatening material in participants who had been in road traffic accidents, while Trandel and McNally (1987) found no evidence for this with Vietnam veterans.

At the conscious processing level, more consistent evidence has accumulated. For example, Bryant and Harvey (1995), in a well-controlled study of participants who had been in road traffic accidents, found delayed vocal response latency to visually presented trauma-related stimuli. Similar findings have been demonstrated in other populations, such as for PTSD following rape (e.g. Foa, Feske, Murdock, Kozak & McCarthy, 1991) and Vietnam veterans (e.g. Kaspi, McNally & Amir, 1995). However, because of the methodological limitations of some of the studies in this area, more work needs to be done to establish whether PTSD shows a unique attentional bias amongst anxiety disorders, that is specific to trauma-related information (Buckley et al., 2000).

Memory biases in PTSD have also been investigated. Again, there is insufficient evidence to draw firm conclusions. However, Vietnam veterans with PTSD have been found to have superior recall of trauma-related information than matched controls in both implicit (Amir, McNally & Wiegartz, 1996) and explicit (Kaspi et al., 1995) memory paradigms. This is striking, given that on general standardised memory assessments, poorer short-term and long-term memory has been demonstrated for participants with PTSD versus controls (e.g. Bremner, Scott, Delaney, et al., 1993). McNally, Litz, Prassas, Shin and Weathers (1994) have demonstrated that Vietnam veterans have difficulties in generating specific positive personal memories in response to emotional cue words. Similar problems have been demonstrated in individuals with depression (Brittlebank, Scott, Williams & Ferrier, 1993) and it has been suggested that lack of availability of positive information may be a maintaining factor in depression (e.g. Beck, Rush, Shaw & Emery, 1979). Given the co-morbidity of depression with PTSD this is an interesting finding. Additionally, the other attentional and memory biases identified above could have the effect of increasing a sense of current threat in individuals with PTSD, making these plausible maintaining factors (cf. particularly the fear network and cognitive models discussed below).

Effective treatments for PTSD

Foa et al. (2000) performed a comprehensive review of the PTSD treatment literature as the basis of practice guidelines from the International Society for Traumatic Stress Studies. They concluded that the strongest evidence, in terms of number of well-controlled studies, was for treatments with significant components of prolonged exposure. They also concluded that there was good evidence for the cognitive therapy treatments, together with approaches that combined exposure with cognitive restructuring. However, there was no evidence of significant differences in effect sizes between any of these successful therapeutic approaches.

Despite Foa et al's (2000) findings of no significant differences between prolonged exposure alone, cognitive therapy alone, or exposure and cognitive therapy combined, various claims have been made that cognitive therapy may be more suitable in particular cases. For example, Ehlers, Clark, Dunmore, Jaycox, Meadows and Foa (1998) found that women with PTSD following rape who showed evidence of 'mental defeat' or 'absence of mental planning' in imaginal exposure narratives had poorer outcomes. Mental defeat was defined as "the victim's perception that she gave up in her own mind and was completely defeated" (p. 461). An absence of mental planning was seen as a lack of evidence of thoughts about specific actions that could help the individual to cope with the situation, even if these could not be successfully performed. Poorer outcomes were also found for participants who felt alienated from others or permanently changed for the worse by their experiences.

Ehlers et al. (1998) therefore suggest that a combination of exposure work and cognitive restructuring aimed at changing negative self-evaluations may be more effective for individuals with mental defeat, absence of mental planning, or feelings of alienation or permanent change. However, this was not empirically tested. It must also be noted that their conclusions were drawn from a small sample (10 good and 10 poorer outcomes). Further, although they state that there were no significant differences between the groups, it is interesting to note that 8 of the good outcome group were raped by a stranger compared to only 4 of the poorer outcome group and a number of authors (see e.g. Janoff-Bulman, 1992) have suggested that being raped

by a known person may lead to increased difficulties in coping with the event, for example, due to increased self-blame that it should have been possible to anticipate it.

Suggestions that cognitive restructuring and exposure may be more appropriate than exposure alone for individuals with negative self-evaluations are intuitively appealing and occur frequently in the literature. Their appeal is often increased by suggesting that they could increase the treatment response rate, which even for well-supported treatments is generally only around 50 percent (e.g. Foa, Rothbaum, Riggs & Murdock, 1991). However, empirical evidence has been generally unsupportive. For example, in a recent study, van Minnen, Arntz and Keijsers (2002) studied outcome and drop-out in prolonged imaginal exposure treatment for two separate groups with chronic PTSD caused by a variety of traumatic events. They found no stable predictors of poorer outcome, including for example, feelings of anger, guilt and shame and concluded that there was no justification for ruling out prolonged exposure treatment because of pre-treatment factors. Of course, it can be argued that in practice, it is not possible to perform exposure treatment on human participants without cognitive change occurring, for example due to changes in their evaluations of their ability to cope with reminders of the trauma. Nevertheless, specific cognitive restructuring does not seem to be preferentially indicated at this time, and successful models of PTSD will need to account for this.

Finally in this section, it should be noted that there is more limited evidence for the effectiveness of a number of other psychological treatments for PTSD, including group therapy, hypnotherapy, and eye-movement desensitisation and reprocessing (EMDR; see Foa et al., 2000 for a summary of relevant findings). Detailed consideration of these alternatives is beyond the scope of this thesis. Ideally, a comprehensive model should be able to account for all validated treatments, but this is perhaps unrealistic given the current state of knowledge, particularly in the case of EMDR (e.g. Shapiro, 1995), where there is considerable controversy over its active components (see e.g. Lohr, Hooke, Gist & Tolin, 2003).

Psychological models of PTSD

The following review of psychological models of PTSD is selective. It will focus on models that are thought to be most relevant in showing that while non-multilevel models have been able to account for many of the features of PTSD, multilevel models have significant theoretical advantages. Biological theories are therefore not considered.

Stress response syndrome theory

Horowitz (1976, 1986, 1997) has described a normative stress response course to traumatic events. Although based on his psychodynamically-oriented clinical observations, Horowitz's theory uses cognitive concepts such as the development of cognitive schemata to explain how individuals process images, thoughts, feelings and memories related to traumatic events.

Cognitive schemata serve to organise knowledge mentally (Fiske & Linville, 1980) by recognising and storing common elements of experiences. Schemata therefore enable individuals to have coherent representations of themselves and the world in which they live. Over the course of normal developmental experience, this leads to the formation of an individual's 'assumptive world' (Parkes, 1975), which provides the individual with a stable basis for planning and monitoring behaviour. Developed schemata are regarded as being normally highly resistant to change, with a strong bias to interpret new information in ways that are consistent with existing knowledge structures (Fiske & Linville, 1980). Janoff-Bulman (1989), whose own schematic-based theory of PTSD will be discussed later in this section, has suggested that the resistance of schemata to change can be seen as essential from an evolutionary psychological perspective, because it provides the individual with a stable existential self. In some circumstances, however, schemata can change more rapidly. From a developmental perspective, Piaget (1952) argued that schemata could change rapidly when it became clear that they no longer provided accurate representations of the individual's experience. A mechanism of rapid schematic change can also be hypothesised as being essential from an evolutionary psychological perspective, since it is easy to imagine some situations where it is

necessary that an organism's knowledge structures change rapidly if it is to survive. A typical situation might be sudden exposure to danger in a situation that had previously been seen as safe, which is of course a common experience in traumatic events.

In Horowitz's (1976, 1986, 1997) model, normally there is an initial realisation of the effects of the trauma that is overwhelming to the individual's assumptive world. This causes a form of shock and a period of 'crying out'. Individuals will then try to make sense of the event, by attempting to reconcile the meaning of the trauma with their schematic models of themselves and the world. Horowitz (1976, 1986, 1997) sees this as driven by a process that he calls 'completion tendency', which is a psychological need to integrate new experience with existing schematic models. The completion tendency leads to information about the trauma being stored in 'active memory', which is a form of storage that continues to bring the information into conscious awareness until the process of integration is complete.

For many individuals, however, their traumatic experience is very difficult to reconcile with their previous knowledge, resulting in a form of information overload associated with overwhelming feelings of anxiety. This leads to the activation of defence mechanisms that attempt to keep the anxiety-provoking traumatic information from overwhelming the individual. These defence mechanisms lead to symptoms such as numbing, denial of the trauma from conscious awareness, and avoidance of stimuli related to the trauma. However, because trauma-related information remains in active memory, it continues to be brought into conscious awareness, resulting in the re-experiencing symptoms of PTSD (intrusions, flashbacks and nightmares).

The two competing processes of completion tendency and defence lead to continued swings between phases of avoidance and intrusion of traumatic information. For most individuals, this allows them eventually to integrate the trauma-related information with pre-trauma schemata. If, however, the individual cannot integrate the trauma-related information, then the material will remain in active memory and the individual will experience chronic PTSD. Horowitz (1997) also identifies the

possibility that some individuals may defend against the trauma-related information so thoroughly that they continue to experience symptoms such as denial, numbing and dissociation as avoidance strategies, with the possibility of delayed onset PTSD should these defences eventually disintegrate.

Evaluation of stress response syndrome theory

The work of Horowitz (1976, 1986, 1997) has been highly influential in determining views of PTSD as a disorder, particularly in terms of the effects of trauma on an individual's beliefs about themselves and the world they live in. His theory accounts for the core symptomatology of PTSD and outlines the normative course of reaction to trauma, offering explanations for why some individuals can go on to experience chronic PTSD. The efficacy of both exposure and cognitive therapy can be accounted for by the theory, at least in general terms. Exposure can be seen as an opportunity for the individual to integrate the trauma-related information. It is not clear why this is should be more effective than the normative course of phases of intrusion and avoidance (Dalgleish, submitted), although it is possible that therapy provides a safe environment where individuals are less likely to be overwhelmed by anxiety and fail to complete processing of the information. Like Horowitz's (1976, 1986, 1997) theory, Beck's (1967, 1976; Beck et al., 1979) theory of emotional disorders gives central importance to the concept of cognitive schemata in storing information about the individual and their world. In Horowitz's (1976, 1986, 1997) theory, interpretations are seen as a way of helping the individual to integrate the trauma-related information with pre-trauma schemata and it seems logical that cognitive therapy techniques could perform the same function.

However, there are limitations to Horowitz's (1976, 1986, 1997) theory. Firstly, the theory is somewhat descriptive and general. Amongst other consequences, this means that it is difficult to generate particular predictions regarding individual reactions to trauma. Its explanation of the role of the some of the various pre-, peri-, and post-traumatic factors that have been identified as being associated with more severe PTSD (e.g. Brewin et al., 2000) is also rather limited. However, as a general point it is plausible that factors that lead to a greater discrepancy between

trauma-related information and pre-trauma schemata would lead to greater differences in integration and therefore could lead to more severe PTSD (Dalgleish, submitted). Secondly, Dalgleish (submitted) notes that because Horowitz's theory only specifies one level of representation (the schematic level) it fails to account sufficiently for other representations such as automatic thoughts and attributions. The notion of levels of representation will be developed further below, in the section on multi-level models of emotion.

Shattered assumptions theory

The theory of shattered assumptions of Janoff-Bulman (1989, 1992) has a number of similarities to Horowitz's theory of stress response syndromes. Again, this is a schema-based model, which posits that PTSD is caused by difficulties in reconciling pre-trauma schemata with trauma-related information.

Compared with Horowitz's model, Janoff-Bulman (1989, 1992) provides a more detailed exposition on the nature of pre-trauma schemata, supported by empirical findings from interviews and questionnaires (Janoff-Bulman, 1989). She asserts that there are three fundamental assumptions:

> "The world is benevolent. The world is meaningful. The self is worthy." (Janoff-Bulman, 1989, p. 6).

Within these assumptions, Janoff-Bulman (1989) identifies a number of elements that she believes individuals attend to. For example, with regard to a meaningful world, she suggests that individuals expect to see evidence of the principles of justice, where good things happen to good people and bad people are punished. They also expect evidence of control, where people feel that their actions determine what happens to them. Conversely, they will reject evidence of randomness. The fundamental assumptions are normally functional, enabling individuals to plan and act in a way that they would be unable to if they were continually exposed to the existential uncertainty they would have to endure if they were stripped of these assumptions. However, traumatic events can destroy these assumptions, leaving the individual unable to function effectively.

Janoff-Bulman (1989, 1992) suggests that recovery from trauma can occur naturally through oscillation between re-experiencing and avoidance, as described by Horowitz (1976, 1986, 1997). Additionally, she asserts that individuals can facilitate their processing of the traumatic experience by deliberately reviewing their representations of the trauma. Janoff-Bulman (1989, 1992) identifies that a significant number of individuals are eventually able to reinterpret their traumatic experiences in a positive way, for example by seeing their experiences as having taught them valuable lessons about the world. She also notes the importance of the social environments of traumatised individuals in influencing their recovery, which is consistent with the finding of Brewin et al. (2000) regarding the importance of social support.

Evaluation of shattered assumptions theory

The more detailed analysis of possible recovery processes is one of the strengths of Janoff-Bulman's (1989, 1992) theory. She is able to draw on a range of empirical evidence, mainly from social psychology, to support her hypothesised fundamental assumptions (see e.g. Janoff-Bulman, 1989). Within the research literature for PTSD, there is evidence to support her contention that blaming one's self for being involved in a traumatic incident should predict a better outcome, because it allows assumptions regarding personal control to be maintained. This prediction has been supported by a number of studies (e.g. Janoff-Bulman, 1979; Brewin, 1984), although others (e.g. Nielson & MacDonald, 1988; Frazier, 1990) reported the opposite finding, with self-blame predicting a poorer outcome.

As a schema-based theory, most of the strengths of Horowitz's (1976, 1986, 1997) model outlined above also apply to Janoff-Bulman's (1989, 1992) model. This includes accounting for the core symptomatology of PTSD; the normative course of reaction to trauma; the development of chronic PTSD; the efficacy of both exposure and cognitive therapy (again at least in general terms).

Similarly, many of the limitations of Horowitz's (1976, 1986, 1997) theory are shared by the theory of shattered assumptions. Again, it is somewhat descriptive and general and it fails to account sufficiently for other representations such as automatic

thoughts and attributions. In addition, Brewin and Holmes (2003) note that Janoff-Bulman's (1989, 1992) model would seem to predict that an individual who has experienced a traumatic event in the past should cope more easily with a subsequent traumatic event, because there should be less of a discrepancy between his/her fundamental assumptions and the subsequent traumatic event. However, the available evidence suggests that a past trauma makes it more difficult for an individual to cope with a subsequent traumatic event (e.g. Brewin et al., 2000).

Learning theory

Given the prominence of behaviourism in psychology in the first half of the 20th Century and the obvious applicability of learning theory to features of PTSD such as avoidance and the success of prolonged exposure in treatment, it may seem surprising that learning theories specifically applied to PTSD are scarce. Keane, Zimering & Cadell (1985) developed a model based on learning theory for their population of combat veterans. This model was able to account for many of the clinical features of PTSD. For example, the fact that initially neutral stimuli present in the environment during the traumatic event become associated with the event and subsequently cause fear can be explained by classical conditioning. Stimulus generalisation leads to the range of fear-eliciting stimuli increasing. Avoidance of these stimuli is negatively reinforced by anxiety reduction, which makes it less likely that an individual will expose themselves to the fear for long enough to extinguish the association between fear and stimulus.

However, learning theory models such as that of Keane et al. (1985) are inevitably less able to account for the numerous cognitive features of PTSD such as re-experiencing, and changes in appraisals and schemata. Also, within a learning theory framework, it is not clear why individuals should develop PTSD rather than other anxiety disorders such as specific phobia (Brewin & Holmes, 2003). As with the schematic models discussed above, in the criteria of Dalgleish (submitted) learning theory does not include sufficient levels of representation to capture the full complexity of PTSD adequately.

The fear network model of emotional processing

The fear network model (Foa, Steketee & Rothbaum, 1989; Foa & Rothbaum, 1998) has similarities with the schema-based models of Horowitz (1976, 1986, 1997) and Janoff-Bulman (1989, 1992) described above, in that it suggests that psychopathology results from a failure to process emotionally traumatic events successfully (after Rachman, 1980). However, in the fear network model, it is argued that trauma-related information is represented in a particular way that leads to difficulties in emotional processing, rather than the difficulty being due to discrepancies between the information and pre-trauma schemata. This draws on the work of Lang (1979) in suggesting that fear can be seen as an action programme that prompts the organism to escape from danger. Lang (1979) extended learning theory explanations of fear by proposing that memories of fearful events were stored in an associative memory network comprising information regarding the event itself, emotional and physiological responses, and the meaning of the event. Individuals who suffered from pathological anxiety were seen as having fear networks that were more readily triggered by ambiguous stimuli that resembled the original anxiety-causing event in some way. Triggering would lead to the physiological experience of fear and the tendency to interpret situations in similar ways to that of the original event.

Foa et al. (1989) suggested that memories of traumatic events tend to contain a particularly high number of stimulus elements. This can lead to activation of the network and the experience of fear in many situations, which, combined with the memory of the traumatic event itself, can destroy the individual's basic sense of safety (Foa & Rothbaum, 1998). Foa et al. (1989) also suggest that traumatic memory networks have particularly low activation thresholds and result in very strong physiological responses, which can help to explain the persistence of PTSD.

Foa et al. (1989) go on to make specific predictions about how the memories in a fear network can be modified, leading to integration with normal memory processes and a reduction in PTSD symptoms. They suggest that optimal integration occurs when an individual's network is activated and the individual is able to experience habituation

to fear. This causes the individual to incorporate new information within the fear network and this eventually leads to a reduction in the strength of the associations within the fear network. Foa et al. (1989) suggest that these processes can occur within therapy through imaginal or in vivo exposure and also between therapy sessions, as long as the individual experiences habituation to the fear associated with their memories of trauma.

Evaluation of the fear network model

The fear network model, particularly in its later, more sophisticated form (Foa & Rothbaum, 1998) has considerable explanatory power. The fear network concept is able to account for the way in which reminders of traumatic events can trigger intense re-experiencing. Encoding of behavioural strategies in the fear network can explain the effects of PTSD on memory and attentional processes (Brewin and Holmes, 2003). The later, more sophisticated model (Foa & Rothbaum, 1998) acknowledges the role of pre-trauma schemata, in line with the work of Horowitz (1976, 1986, 1997) and Janoff-Bulman (1989, 1992). This enables the fear network model to account for the impact of trauma on an individual's view of themselves and their world. The model is also able to explain the efficacy of both exposure and cognitive therapy treatments for PTSD. It has led to specific predictions about effective treatments, some of which have received empirical support. For example Foa, Molnar and Cashman (1995) showed that narratives of rapes during imaginal exposure became less disorganised over the course of treatment, and this was associated with a reduction in trauma-related anxiety. Foa, Riggs, Massie and Yarczower (1995) found that female assault victims who displayed more facial fear during their first imaginal exposure session, interpreted as suggesting that their fear networks had been activated, showed more improvement following completion of therapy, on a composite measure of PTSD and anxiety symptoms.

It is possible to criticise the fear network model on the basis that some of the 'cognitive architecture' to support the processes theorised to occur is not fully specified (Dalgleish, submitted; see also Brewin & Holmes, 2003). For example, it is not clear within the model how memories of the traumatic event can be associated

with different intensities of emotion if they are only represented within one level of representation (the fear network). Brewin & Holmes (2003) further note that animal studies of fear conditioning have suggested that it seems more likely that fear activation is reduced by the establishment of new memories, in which the stimuli that occurred at the time of the trauma are not paired with feelings of fear, than by the modification of existing memories. These new memories, which are not associated with fear, then compete with the memories of trauma and can inhibit the feelings of fear. This proposal, which is controversial, is developed within Brewin, Dalgleish, and Joseph's (1996) dual representation theory of PTSD, which will be discussed in detail below. One final criticism of the model is that it is specific to PTSD. While this is associated with considerable explanatory power for PTSD, the model is less able to explain other symptoms. Given the significant co-morbidity associated with PTSD, a model that could account for other psychological problems would have increased clinical utility.

Dual representation theory

Brewin et al. (1996) developed a theory of PTSD in which memories of traumatic events are stored in two separate memory systems. The first memory type is known as the VAM (verbally accessible memory) system. This stores memories that are integrated with normal autobiographical memory. Memories in the VAM system have been consciously processed and contain evaluations of the trauma, together with primary emotions (what the individual felt at the time) and secondary emotions (associated with subsequent appraisals of the trauma). As the term "verbally accessible" implies, these memories can be retrieved in the same way as other autobiographical memories and the VAM system is the source of subsequent oral or written accounts of traumatic events.

The second memory type is known as the SAM (situationally accessible memory) system. This stores memories processed at a lower level than the VAM system, for example, stimuli associated with the traumatic event that did not reach conscious awareness. Brewin et al. (1996) suggest that the highly threatening nature of traumatic events severely limits the amount of information that can be registered in

VAM, leading to most of the information being stored within the SAM system. Information within SAM cannot be consciously retrieved in the same way as VAM, but can be triggered by stimuli that match the traumatic events. Matching stimuli can be both external (for example, smells that were present during the event) and internal (for example, emotions that were felt at the time). SAM can contain physiological information, for example heart rate and pain. It can also contain representations of emotion. Normally, these would be restricted to the primary emotions felt at the time of the trauma, however, Brewin and Holmes (2003) note the possibility of more complex appraisal-based emotions being stored in SAM if the traumatic event is of sufficient duration.

Brewin et al. (1996) suggest that the SAM system is the source of the flashbacks often associated with PTSD. These are triggered, as noted above, by internal or external stimuli consistent with the traumatic event. Because SAM can contain both physiological and emotional representations, together with more detailed perceptual information than is normally available to VAM, flashbacks feel qualitatively different to normal memories and are generally distressing. The non-verbal nature of SAM means that it does not tend to integrate with normal autobiographical memory, which often leads to persistent flashbacks. Brewin et al. (1996) further suggest that the lack of integration of the two memory systems can account for other PTSD symptomatology such as dissociation and nightmares.

In Brewin et al's (1996) model, there are two distinct recovery processes that are necessary for a full resolution of PTSD. Flashbacks, caused by triggering of the SAM representations of the trauma, are prevented by developing more detailed VAM representations that inhibit the activation of SAMs. Because SAMs initially contain more detail than VAMs about the trauma, it is necessary to elaborate the VAMs so that they too become increasingly likely to be triggered by internal or external stimuli that are consistent with the original trauma. The elaborated VAMs also need to contain representations that the individual is safe and that the trauma occurred in the past, so that these counter the emotion of fear that the individual felt at the time of the original trauma. Brewin et al. suggest that these mechanisms underlie the effectiveness of exposure therapy (see also Brewin, 2001).

The second recovery process involves the individual dealing with the aversive primary and secondary emotions encoded in VAM. These can include feelings of shame or anger. The individual also may have to come to terms with discrepancies between the traumatic experience and his or her previous schematic representations of the self and the world, in line with the work of Janoff-Bulman (e.g. 1989). Brewin et al. (1996) suggest that this would be accomplished by cognitive therapy techniques.

Evaluation of dual representation theory

Dual representation theory has a number of significant strengths. Firstly, it can integrate an impressive array of empirical data. The suggestion that there may be separate memory representations to encode both automatic and higher-level processing is consistent with findings within cognitive science (e.g. Sloman, 1996). Brewin (2001; Brewin & Holmes, 2003) has suggested that neurological findings that memory can be encoded via routes that involve either the hippocampus and the amygdala, or more directly by the amygdala without the hippocampus, support the notion that there are (at least) two different forms of memory. Brewin (2001) suggests that the hippocampus-mediated route may be equated to VAM, while the non-hippocampal route is the source of SAM. He notes the differential response to these systems to intense arousal, which enhances the non-hippocampal route while inhibiting the hippocampus-mediated route.

Brewin and Holmes (2003) cite evidence from Holmes, Brewin and Hennessy (submitted) who provided direct empirical support for dual representation theory by demonstrating that different concurrent tasks performed by participants who watched a trauma film resulted in different levels of intrusive memories. Backward number counting which was hypothesised to interfere with VAM, because of the verbal nature of the task, was predicted to lead to fewer verbally accessible representations compared to situationally accessible representations, leading to an increase in intrusive memories. In contrast, a visuo-spatial task (keyboard pattern tapping) was hypothesised to interfere with SAM, which would lead to fewer situationally accessible representations and less intrusive memories. Holmes et al's (submitted)

results were in line with these predictions of dual representation theory. Dual representation theory can also account for findings noted earlier regarding the effects of PTSD on attentional processes (see the section on information processing and PTSD above). Trauma-related cues will trigger activation of SAM (and possibly VAM) representations, resulting in a bias of attention.

Secondly, Brewin and his colleagues (Brewin et al., 1996; Brewin, 2001; Brewin & Holmes, 2003) make a number of interesting propositions based on dual representation theory. Brewin et al. (1996) suggest a number of possible routes for individuals within a dual representation framework that could lead to different outcomes following trauma. For example, individuals may be able to strongly inhibit memories of the trauma (both VAM and SAM), provided they do not experience too many subsequent reminders of the trauma. These individuals may appear unaffected by the trauma at the time. However, because they have not completed the task of elaborating VAMs sufficiently to inhibit SAM activation, they will remain vulnerable to this inhibition breaking down if future reminders of the traumatic event become too intense. Brewin et al. (1996) suggested that this could explain phenomena such as delayed onset PTSD.

Brewin (2001) suggests that VAMs are able to inhibit SAMs when they have sufficient retrieval cues to be triggered by reminders of the trauma. Therefore, he argues that flashbacks can be treated more efficiently by focusing exposure work on aspects of the individual's trauma narrative that are associated with the greatest distress. This can be contrasted with approaches such as Foa and Rothbaum (1998), who argue that prolonged exposure is effective because it integrates new information of safety with the existing memories of trauma. In Foa and Rothbaum's (1998) model, greater coherence and elaboration of the entire trauma narrative would be associated with better outcomes. While there is not direct empirical support for Brewin's (2001) contention, he does note that Ehlers and Clark's (2000) cognitive model of PTSD (described below) recommends focusing therapy on what they term "hot spots" within the trauma narrative. The fact that there is empirical evidence that Ehlers and Clark's (2000) model leads to effective treatment (Gillespie, Duffy, Hackman & Clark, 2002) provides some support for his contention.

Brewin (2001) makes the point that dual representation theory suggests that the level of arousal that an individual experiences while recalling trauma is crucial. If arousal becomes too high, the hippocampally-mediated memory route will again become inhibited, preventing inhibitory VAM representations from being formed. It is worth noting that, in contrast, writers such as Foa and Rothbaum (1998) have emphasised that successful exposure treatment requires that an individual experience sufficient arousal to activate his/her fear network, so that he/she can habituate to the fear and integrate this information into the network. Empirical findings that support that some arousal is necessary for successful response to exposure have been presented (e.g. Foa et al., 1995). Brewin's proposal would have significant treatment implications and further empirical exploration of optimum levels of arousal in exposure work appears merited.

It can be seen that dual representation theory presents a sophisticated account of PTSD that can explain many of the features of the disorder. Also, while it does not propose unique treatment methods, it does have important implications for existing treatments. However, there are limitations to dual representation theory. Firstly, Dalgleish (submitted) suggests that there are insufficient levels of representation within the theory. For example, Brewin et al. (1996) suggest that schematic-level representations of the self and world, such as those advanced by Janoff-Bulman (1989) are encoded in VAM. In Brewin et al's theory, representations in VAM are implicitly verbally accessible, yet most theorists would suggest that schematic-level representations are not fully verbally accessible (e.g. Janoff-Bulman, 1989; see also the SPAARS model of Power & Dalgleish, 1997, discussed in detail below).

A second limitation of dual representation theory is that it is quite specific to PTSD. Brewin et al. (1996) suggest some specific pathways in the development of co-morbidity, for example that depression could develop subsequent to PTSD due to repeated experiencing of feelings of helplessness associated with flashbacks. However, dual representation theory's main explanatory power concerns the development and maintenance of PTSD symptoms and treatment implications. Given the high level of co-morbidity associated with PTSD, models that can account

for PTSD and additional symptomatology in an integrated way would appear desirable.

Thirdly, the suggestion that neurological mechanisms and the differential effect of intense arousal may account for the difference between VAM and SAM representations is intriguing but may be problematic. Brewin (2001) draws on experiments regarding fear conditioning in animals. While feelings of intense fear at the time of the trauma are normally associated with PTSD (and are a requirement for diagnosis), as noted Dalgleish et al. (submitted) suggest that a variety of intense emotions, such as disgust or anger, can lead to core symptomatology of PTSD, particularly re-experiencing. However, even if this controversial extension of PTSD is accepted, there are ways of getting around this problem within dual representation theory. It could be claimed that even if the dominant reported emotion is not fear, the nature of traumatic events makes it likely that fear will still be a strongly felt emotion at the time of the trauma and this would be sufficient for differential activation of memory systems. Unfortunately, this does not appear consistent with the clinical vignettes advanced by Dalgleish et al. (submitted). Another possible way to get around the problem is to argue that the intense arousal required to trigger these differential memory systems can be generated by other emotions than fear. While this appears plausible, it should be noted that Brewin and Holmes (2003) state clearly that SAMs normally only contain the primary emotion of fear and that secondary emotions such as anger, guilt or disgust are normally encoded within VAMs because they depend on subsequent appraisal of the traumatic event.

Fourthly, some empirical evidence inconsistent with the proposals of dual representation theory should be noted. Brewin (2001; Brewin et al. 1996) suggests that recovery from flashbacks is not caused by reorganisation and integration of new material into existing memories (as claimed by e.g. Foa & Rothbaum, 1998) but by the creation of new memories that then inhibit existing SAMs. Brewin uses findings from animal fear conditioning experiments to support his contention that existing emotional memories cannot be altered (e.g. LeDoux, Romanski & Xagoraris, 1989). However, more recent evidence from animal conditioning studies suggests that this is not the case (Morrison, Allardyce & McKane, 2002).

Brewin (2001) suggests that upsetting secondary appraisals related to the trauma such as shame or anger will prevent individuals from being able to encode VAM representations that will inhibit SAM-based flashbacks. Therefore, he argues that cognitive therapy techniques would be required for these individuals to reduce the aversiveness of these appraisals before exposure therapy could be used to treat their flashbacks successfully. However, van Minnen et al. (2002) reported that pre-treatment anger, guilt and shame were not related to either treatment outcome or treatment drop out in prolonged exposure therapy.

Finally, dual representation theory is also limited in its treatment of the role of social support in PTSD. This is a clear problem given the importance of social support as an outcome factor already noted above (rather ironically a central finding of the meta-analysis by Brewin et al., 2000), although in fairness dual representation theory is not alone in paying limited attention to social support.

Integrative psychosocial model

The Joseph, Williams and Yule (1995) psychosocial model of PTSD is integrative, including elements of other models such as Horowitz's (1976, 1986, 1997) and Janoff-Bulman's (1989, 1992) schematic representations. These have already been discussed, and other elements of Joseph et al's (1995) model such as appraisals about the event will be considered under the cognitive model discussed below. Attention in this section will therefore be focused on the distinct features of Joseph et al's (1995) model, namely the role of social support in the development and maintenance of PTSD.

Joseph et al. (1995) suggest that social support provides an opportunity for individuals to process the trauma emotionally, drawing on Foa and Kozak's (1986) concept of trauma representations being stored in a fear network. They suggest that effective "crisis support" depends on the availability of people who are able to listen in an accepting way and provide both emotional and practical support. They cite evidence from both correlational (Joseph, Andrews, Williams & Yule, 1992) and longitudinal (Joseph, Yule, Williams & Andrews, 1993; Joseph, Dalgleish, Thrasher & Yule, 1995) studies. These studies suggested that receiving crisis support results

in reduced avoidance symptoms and can also reduce intrusions, and co-morbid depression and anxiety symptoms.

Joseph et al. (1995) note that characteristics of the trauma may affect an individual's ability to access social support. For example, they suggest that an individual's appraisals of the event and the resulting emotions, such as guilt or depression, may cause him/her to withdraw from social contact. They also argue that societal attitudes to the trauma need to be considered, suggesting that unpopular wars such as Vietnam may lead to greater levels of PTSD because veterans are more likely to feel rejected and unsupported (see also Summerfield, 1993).

Evaluation of the integrative psychosocial model

Since meta-analyses of PTSD outcomes have suggested that social support is a very important factor (Brewin et al., 2000; Ozer et al., 2003), the rather limited nature of knowledge in this field is disappointing. There is a methodological problem with many studies, including those drawn upon by Joseph et al. (1995). This is that measures of social support are taken after the traumatic event. Even in longitudinal designs, the initial measure is usually taken some time after the event (e.g. Joseph et al., 1993). Therefore it is possible that other factors related to the trauma, such as feelings of shame or depression, were affecting individuals' perceptions of the social support that was available for them or their ability to utilise this. This would inflate the importance of social support and neglect the importance of moderating variables.

A second problem is that the work on social support appears conceptually limited compared to that in other fields such as depression (e.g. Brown & Harris, 1986). Joseph (1999) notes that social support is a multifactorial construct and that different researchers have operationalised it in different ways. He suggests that important factors to be considered include perceived versus actual support and the nature of the support itself, which can be, for example, practical or emotional. Joseph (1999) argues that cognitive support may be one of the most important factors in social support for trauma by helping individuals to process their experiences. However, empirical work to support Joseph's proposals has not been completed.

In summary, while there appears to be an important role for social support within trauma, the limited conceptual development of this area prevents strong conclusions being drawn at present. This is disappointing, particularly in comparison with work on social support in other areas of mental health.

Cognitive model

Ehlers and Clark (2000) recently proposed a detailed cognitive model of PTSD. One of the challenges for cognitive models of PTSD is to explain why memories of past events can trigger such intense feelings of fear when they are later recalled in a safe environment. This is a particular challenge for cognitive theories because as outlined by Beck (1967, 1976), in cognitive theory the emotion that an individual experiences depends on the appraisal that the individual makes of a situation. According to Beck (1976), anxiety is triggered by appraisals that a situation is currently threatening to an individual. However, in PTSD, the danger directly associated with the traumatic event is clearly in the individual's past.

Ehlers and Clark (2000) therefore suggest that individuals with PTSD process their traumatic event in particular ways that maintain beliefs that they continue to be at serious risk of harm. Some of these processes include negative appraisals that are familiar from cognitive theories applied to other disorders, such as depression. For example, they may overgeneralise from their experience of trauma, believing that if the event could happen to them in a place that they thought was safe, then it could happen anywhere. However, Ehlers and Clark (2000) go beyond these familiar processes, suggesting that the nature of traumatic events leads to the formation of unusual memory processes that serve to maintain the sense of current threat.

Firstly, Ehlers and Clark (2000) suggest that memories of traumatic events are poorly integrated into autobiographical memory and lack associated semantic cues, for example, the time and place in which the event occurred. This leads to features of memory commonly observed in individuals with PTSD. These include difficulty in intentionally recalling traumatic memories; the vivid sense that the event is actually happening again while the individual remembers it; and the difficulty in integrating

memories of the traumatic event with subsequent information, including the knowledge that the individual is no longer threatened with danger.

Secondly, Ehlers and Clark (2000) propose that traumatic memories have unusually strong associations. This helps to account for the high probability of triggering traumatic memories by stimuli similar to those present in the index event. Ehlers and Clark (2000) appear to conceptualise this associative memory in a similar way to SAM within Brewin et al's (1996) dual representation theory (see above). Thus, these associations are not subject to conscious control and an individual can therefore re-experience the trauma and related emotions without being able to understand what triggered this. Triggering of fear would serve to maintain a current sense of danger.

Thirdly, individuals who experience trauma become perceptually primed to recognise stimuli that occurred at or around the time of the trauma. This increases the likelihood of the associative memories discussed above being triggered. Ehlers and Clark (2000) suggest that because the relatively indiscriminate implicit memory system is involved in this perceptual priming, triggers for re-experiencing may be only broadly similar to the original stimuli.

Fourthly, Ehlers and Clark (2000) suggest that memories and appraisals of the traumatic event share a reciprocal relationship. Appraisals bias retrieval, making it more likely that individuals will remember events that are consistent with their appraisals. This in turns prevents individuals from accessing information that could help them to reject unhelpful appraisals. On the other hand, the disorganised nature of traumatic memory can lead to unhelpful appraisals, for example individuals might believe that they must have suffered brain damage during the trauma.

Ehlers and Clark (2000) suggest that peri-traumatic cognitive processing has an effect on subsequent appraisals and memories. Their concept of "mental defeat" reflects "the perceived loss of all psychological autonomy, accompanied by the sense of not being human any longer" (p. 331). They suggest that this is likely to lead to very negative appraisals of the trauma and self. Ehlers and Clark (2000) also propose that individuals who describe very unclear memories of the trauma are reflecting disorganised processing at the time of the trauma. They suggest that this is

due to 'data-driven' rather than 'conceptual' processing and leads to primarily sensory information being encoded, without conceptual organising information. This leads to the effects on memory described above. Ehlers and Clark (2000) further note that peri-traumatic dissociation may play a role in memory disorganisation; however, they do not develop this within their theory.

Additionally, Ehlers and Clark (2000) suggest that in PTSD, individuals may employ maladaptive behaviour strategies. These are intended by the individual to help them control the aversive symptoms of PTSD but in practice they maintain them by either generating further symptoms or by preventing change in appraisals or traumatic memories. Many of these are familiar from other applications of cognitive therapy such as for anxiety and obsessive-compulsive disorder (e.g. Salkovskis, 1996). Examples include thought suppression, when attempts to prevent unwanted thoughts actually lead to them occurring more frequently, and avoidance.

Ehlers and Clark (2000) suggest a range of cognitive-behavioural techniques for treating PTSD. These include psychoeducation, and imaginal exposure to the event with cognitive restructuring of the associated appraisals. Ehlers and Clark (2000) advocate a more focused approach to imaginal exposure, concentrating on "hot spots" associated with intense emotional distress. Behavioural techniques also have a prominent place within Ehlers and Clark's model (2000). They suggest that in vivo exposure can both correct negative appraisals, for example of continued danger, and help individuals to realise that the event happened in the past. They also advocate a form of activity scheduling, in which individuals are encouraged to return to activities that they enjoyed before the trauma. This has interesting parallels with Herman's (1992) view that an essential stage in recovery from trauma is one of reconnection with the world, although the timing differs between these models. Herman (1992) saw reconnection as the final stage of the recovery process, while Ehlers and Clark (2000) advocate activity scheduling as an early intervention.

Evaluation of cognitive model

The main theoretical contribution of Ehlers and Clark's (2000) model is in extending our knowledge of the role of individual appraisals and behaviours in the development

and maintenance of PTSD. There is empirical support for associations between PTSD symptomatology and a number of factors that are consistent with their model. For example, these include negative appraisals of the trauma (e.g. Dunmore, Clark & Ehlers, 1997; Dunmore et al., 1999), of early PTSD symptoms (e.g. Dunmore et al., 1997, 1999; Clohessy & Ehlers, 1999); and of the reactions of others (e.g. Dunmore et al., 1997, 1999). Behaviours such as avoidance (e.g. Dunmore et al., 1999) and thought suppression (e.g. Clohessy & Ehlers, 1999) have also been associated with increased PTSD symptomatology. However, as Brewin & Holmes (2003) note, these studies are based on following up individuals who have experienced trauma. Therefore, there is always the possibility that something about the trauma, such as its intensity, is what is actually affecting both symptomatology and appraisals and behaviours. Stronger evidence is provided by studies such as Dunmore et al. (2001), which control for initial symptom severity. Dunmore et al. (2001) found that the predicted associations with PTSD symptomatology held for mental defeat, negative appraisal of early PTSD symptoms, and avoidance and other safety behaviours. However, even these studies are not truly controlled, in that all the participants have experienced a traumatic event, although it is difficult to imagine a feasible alternative research design.

Empirically, Ehlers and Clark's (2000) model has been shown to provide a basis for effective treatment (Gillespie et al., 2002). From the point of view of treatment, an advantage of the model is that it is able to draw on a wide range of cognitive-behavioural techniques already used to treat other disorders. The existence of cognitive-behavioural therapy packages for commonly co-morbid problems such as depression, which could be easily integrated with treatment for PTSD, is another advantage. However, as discussed above, the assertion that imaginal exposure with cognitive restructuring should be more efficacious than prolonged exposure without restructuring, in cases where there are complex emotions associated with negative self-perceptions, has not been empirically supported (e.g. van Minnen et al. 2002).

While the model is able to provide a useful explanatory framework for maintenance of PTSD symptoms and treatment strategies, some of its underlying conceptual basis appears a little weak. Firstly, the suggestion that data-driven processing at the time

of trauma leads to the memory distortions and subsequent negative appraisals associated with PTSD has received limited empirical support in analogue laboratory experiments (Brewin & Holmes, 2003). This is arguably the only unique proposal of the model regarding traumatic memory, with the other propositions drawing (explicitly) on other theories such as dual representation theory (Brewin et al., 1996) and emotional processing (e.g. Foa et al. 1989). A second criticism is that to account for the particular features of PTSD, Ehlers and Clark's (2000) model has to introduce a number of concepts related to memory that are unique within cognitive therapy. It may be felt that this limits its theoretical integrity. In their defence, cognitive therapy contains a number of models that are specific to individual disorders (e.g. obsessive-compulsive disorder, Salkovskis, 1996). However, this reduces the potentially integrative power of cognitive therapy in understanding the range of psychological problems, making it essentially heuristic rather than truly explanatory.

Thirdly, despite its theoretical contortions, Ehlers and Clark (2000) willingly acknowledge that their theory cannot readily account for important aspects of PTSD, such as the efficacy of exposure therapy or the source of dissociation. Fourthly, the frequent criticism that the model neglects the importance of social support can again be levelled, however, Ehlers and Clark (2000) do explicitly note the importance of appraisals about the reactions of others as a maintaining factor in PTSD. Finally, Dalgleish (submitted) also identifies two technical problems with their theory. The first is that the memory representations proposed by Ehlers and Clark (2000) are not detailed enough in their structure. Dual representation theory (Brewin et al., 1996) has the "cognitive architecture" necessary to be able to explain why, in different circumstances, individuals can talk about the same events and display very different types and intensities of emotions (often referred to as "hot" versus "cold" cognitions). However, this architecture is not specified within Ehlers and Clark's (2000) model. Dalgleish's (submitted) second point is that there is no acknowledgement of schematic levels of representation within the model. This would be required for information about the self and world to be stored, in line with the work of, for example, Janoff-Bulman (1989, 1992). Dalgleish (submitted) points out that without this level of representation, many of the appraisals identified by

Ehlers and Clark (2000) would not make sense. For example, an appraisal that an individual is less competent than he/she believed requires the existence of a pre-trauma belief that he/she was (at least reasonably) competent.

The SPAARS model

Dalgleish (1999, submitted) applied the SPAARS (Schematic, Propositional, Associative and Analogical Representational Systems) model (Power & Dalgleish, 1997, 1999; Power, 1997, 1999) to PTSD. SPAARS is a multi- level model, specifically intended to address both normal and abnormal emotional functioning. It aims to integrate previous theories of emotion using broadly based principles from cognitive science.

SPAARS has a functional emphasis, with emotions being seen as essential components in organising responses to internal or external events that threaten the achievement of valued goals (cf. Oatley & Johnson-Laird, 1987). Thus emotional states are motivational and are conceptualised as triggering the activation of an associated module within the cognitive system. This module incorporates a range of (normally) adaptive actions for dealing with problems. So for example, if the fear module is triggered then the autonomic reactions associated with fight or flight would activate and the attentional threshold for threat stimuli would be lowered.

There are four different levels of information representation within SPAARS (Schematic, Propositional, Associative and Analogical). All incoming information is initially processed by the Analogical system. This system processes and stores perceptual information for the various sensory modalities (e.g. visual, auditory, kinaesthetic). Information from the Analogical system can then pass to one or more of the other systems. The Associative system may be seen as a form of network of associations and influences, which operate under automatic rather than controlled processing. These influences include fundamental innate emotions (sadness, happiness, fear, anger and disgust, in line with e.g. Ekman 1992); biological influences; learned associations; and appraisals that were initially conscious or preconscious but became automatic due to continued repetition. The Associative system also performs the role of the unconscious within SPAARS.

The Propositional system contains information in verbal form including beliefs and semantic information. The highest level of representation in SPAARS is the Schematic level. This contains abstracted synthesised information. It can contain information from the other levels of representation within SPAARS, but it is more than just the sum of its parts. It is therefore not possible to express Schematic level representations in verbal form, although they may contain Propositional level beliefs that can be expressed verbally. For example, Schematic level representations will hold information about the self and the world that go beyond what an individual could articulate.

Within SPAARS, two ways that emotions can be generated have been identified. The first route is through the Associative system. This is an automatic, uncontrolled process, which may leave an individual unable to account for why he/she is suddenly feeling a particular emotion. Dalgleish (submitted) suggests that in applying SPAARS to PTSD, the Associative system may be seen as equivalent to Foa's concept of the fear network (e.g. Foa et al., 1989). Therefore, this would account for an individual experiencing emotions felt at the time of his/her trauma when faced with stimuli similar to those present during the trauma. The second route involves the Schematic level and is a controlled, appraisal-based process. Emotions are generated based on an individual's appraisal of the possible impact of events on his/her current goals. So, for example, if an individual believes that his/her current goals will be threatened by events, he/she would feel fear. Applying this concept to PTSD, Dalgleish (submitted) suggested that a traumatic event would normally lead to fear, due to appraisal of the event as highly threatening to a range of possible goals including basic survival. The Schematic level would also contain representations consistent with the theories of Janoff-Bulman (1989, 1992), for example beliefs relating to the world being inherently safe. These representations would then influence appraisals of traumatic events.

The multiple levels of representation and two routes to emotion within SPAARS lead to a number of possible causes of emotional dysfunction. Power and Dalgleish (1997, 1999) suggest that two emotions that are consistently experienced in response to particular stimuli can become 'coupled' in a way that one emotion continually

triggers the other and vice versa. For example, they suggest that grief and anger may become coupled and trap an individual in a prolonged grief reaction. Another possibility is for the same emotion to be triggered at different levels of representation, creating a 'positive feedback loop' that maintains an emotion. For example, Power (1999) suggests that in depression Associative-level representations may activate related Propositional-level thoughts (similar to negative automatic thoughts in cognitive theory; e.g. Beck, 1976), which can then trigger Schematic-level representations. This concept has parallels with the notion of 'interlock' in Teasdale and Barnard's (1993) Interacting Cognitive Subsystems (ICS) theory.

Dalgleish (1999, submitted) proposes ways in which SPAARS can account for the specific symptomatology of PTSD. He suggests that re-experiencing occurs because memories of traumatic events cannot be easily integrated into an individual's pre-trauma Schematic-level representations of themselves, others and the world. These incompatible memories may be appraised as being a threat to the individual's Schematic-level representations and hence his/her sense of a coherent self, triggering the fear module. This leads to continued attempts to process the incompatible information in order to reduce the appraisal of threat to the individual's sense of self. These attempts to process the memories are also likely to lead to further activation of the fear module by the triggering of representations of the fear that the individual felt at the time of the trauma. This can cause the individual to feel that he/she is constantly in danger. Dalgleish (1999, submitted) adds that repeated activation of the fear module will lead to greater re-experiencing, by causing consistent attentional biases for threat-related information that will in turn trigger further representations of the trauma. He suggests that the incompatibility of the traumatic memories with other information means that they remain highly cohesive and do not assimilate with other memories. As a result, triggering any part of the traumatic memory is likely to lead to re-experiencing the whole event, with a sense that it is happening in the present. This accounts for flashbacks. Dalgleish (1999, submitted) further proposes that chronic re-experiencing will lead to the development of Associative-level links

between stimuli related to re-experiencing and feelings of fear, maintaining the individual in an almost constant state of fear.

Dalgleish (1999, submitted) sees the other central symptom clusters within PTSD as being mainly a consequence of the re-experiencing processes described above. He proposes that avoidance is a way for an individual to protect him/herself from continued re-experiencing. Hyperarousal is seen as a consequence of re-experiencing causing continued activation of the fear module. Irritability and anger may result from reduced executive processing resources for complex appraisals of responsibility, because of the ongoing demands for processing resources made by re-experiencing.

Postulating different Schematic-level representations enables SPAARS to describe a number of possible reactions to trauma. This gives it an advantage in clinical practice over theories such as Janoff-Bulman's (1989, 1992), in which it is less easy to reflect individual differences. Dalgleish (submitted) outlines five possible 'scenarios'. For example, he suggests that there may be two different groups of individuals who hold overly rigid beliefs that the world is safe. One group may have developed this belief through experiencing unusually safe lives in which their goals were normally achieved. They are therefore likely to find traumatic events particularly hard to assimilate and will have an increased risk of chronic PTSD. The second group is seen as having experienced normal lives, with failure to achieve at least some goals, however, these individuals have protected their Schematic-level representations by systematically inhibiting negative experiences that would challenge them. These individuals may not experience acute PTSD (although they may well have avoidance symptoms such as emotional numbing), but they would be vulnerable to delayed-onset PTSD if, for example, later negative life events became overwhelming.

Like dual representation theory (described above), SPAARS does not generate novel treatments, but does have a number of implications for existing treatments for PTSD (Dalgleish, submitted). For example, it suggests that the two routes to emotion generation need to be considered throughout therapy. Fear associated with trauma

would normally be generated through both the Schematic- and the Associative-level routes. Cognitive therapy is seen as working at the Propositional-level, which may then influence the Schematic-level route. However, if incompatible Associative-level emotions continue to be triggered, cognitive therapy may only work for an individual at an intellectual level, disconnected from his/her emotional experience. Another example is that if an individual has an overly negative pre-trauma representation of the world, he/she may find the discrepancy between this and the supposedly safe therapy environment too stressful to enable successful exposure work to be performed.

Evaluation of the SPAARS model

As with other multi-level models of emotional functioning, SPAARS has a number of advantages over single-level models (Teasdale, 1999). For example, it is able to explain why thinking or talking about the same emotional events can lead to 'hot' or 'cold' cognitions in a way that single-level models cannot, because emotional reactions are dependent upon activation of particular levels of representation. It is also consistent with theorising in other areas of cognitive psychology, giving it greater potential for integration with this area. By incorporating both appraisal-based processes in the Schematic-level route to emotion and more basic processes in the Associative-level route, SPAARS gains all the advantages of appraisal theories of emotion, while avoiding their main limitation: that they only account for a subset of emotional events. Roseman and Smith (2001) outline the strengths of appraisal theories, which include their ability to explain, for example, why different people feel differently in response to the same event; how emotions can be irrational; and how the emotions felt towards particular events can change over time or due to the discovery of new information.

Turning to PTSD specifically, SPAARS is able to account for the core symptomatology. It can incorporate many of the strengths of models previously discussed, such as the appraisal processes of the cognitive model. As a multi-level model, SPAARS can also provide an alternative account for Brewin et al's (1996) dual representation theory and the empirical evidence cited in support of it.

SPAARS provides a more detailed description of Schematic-level processes than other models. It can account for the success of both exposure and cognitive treatments for PTSD, which would be seen as targeting primarily the Associative and Propositional levels respectively. However, SPAARS also has the advantage of being able to note the implications of processes occurring at different levels. For example, successful exposure therapy would reduce fear representations at the Associative level and lead to changes at the Schematic level, such as representations of ability to control fear and behave effectively. Dalgleish (1999, submitted) makes specific proposals regarding treatment for PTSD based on the principles underlying SPAARS. Finally, as a general model of emotional dysfunction, SPAARS can provide an integrative perspective on the co-morbidity associated with PTSD.

However, SPAARS does have limitations. Although it is able to account for much of the existing empirical evidence, being a general, integrative and high-level model it has not generated many empirically testable hypotheses that would provide clear support for its proposals. In part, this may reflect general methodological difficulties with multi-level models (Teasdale, 1999). SPAARS also shares the common problem with most of the other models discussed of providing only a limited account for the role of social support.

Summary and outline of research proposals

In this Introduction, the main clinical features of PTSD have been discussed and a selective review of psychological models of PTSD has been performed. The review has shown that, while individual models have particular strengths, none is sufficient to account for all of the characteristic features of PTSD.

In this thesis, the application of the SPAARS model to PTSD (Dalgleish 1999, submitted) will be empirically investigated. SPAARS provides a strong and integrative conceptual framework for investigating PTSD. However, although it can plausibly account for existing findings, there is a lack of empirical evidence that would specifically support SPAARS over other models of PTSD.

As noted above, Teasdale (1999) has cast doubt on the possibility of empirically differentiating between multi-level models of emotion such as SPAARS and ICS (Teasdale & Barnard, 1993). Even if this could be done, it is beyond the scope of this thesis. Instead, therefore, attention will be focused on particular aspects of the model that can be subjected to empirical investigation. While each of these aspects on their own may only provide inconclusive evidence for or against SPAARS, the overall pattern of findings may make a stronger case. It is proposed that if the results suggest that this overall pattern of findings can add to our understanding of PTSD, then this will strengthen the case for the application of the SPAARS model in this area.

The first aspect of SPAARS that will be investigated concerns Schematic-level representations, one of the two routes to emotion within SPAARS. The questions that will be asked are whether individuals who have experienced a traumatic event report Schematic-level representations and can they be associated with particular emotions or symptoms?

The second main area of investigation within this thesis will focus on the emotions experienced by participants. One of the potential strengths of SPAARS is that it is better able than other models to account for a range of emotional responses to PTSD. This would include individuals for whom the dominant emotion was not fear. Dalgleish et al. (submitted) argue that other strongly experienced aversive emotions such as anger or disgust may lead to re-experiencing, and the association between emotions and symptoms will be explored in this thesis.

In SPAARS, 'coupled' emotions are seen as a potent cause of emotional dysfunction (see the section on the SPAARS model above). Individuals who report a greater number of aversive emotions might therefore also be expected to report greater levels of dysfunction (including more chronic dysfunction) and this hypothesis will be explored.

Findings of a greater range of emotions associated with increased dysfunction might also provide some tentative evidence to distinguish between SPAARS and ICS. In ICS, emphasis is placed on emotional 'interlock' leading to persistent dysfunction.

An example of this would be physiological sensations associated with depression (such as crying) leading to an increased availability of depressive thoughts (such as "I'm such a failure") and the emotion of sadness. Therefore, ICS would appear to predict that the greatest dysfunction would be evident in individuals with a narrow range of intense, aversive emotions. Evidence for this proposition will be investigated.

Finally, to tie together two levels of representation within SPAARS, the model predicts that consistent links between Schematic-level representations and emotions should be identified and this will be investigated.

In conclusion, then, the specific hypotheses that will be investigated in this thesis are as follows.

1. Schematic-level representations will be associated with symptomatology in a sample of individuals who have experienced traumatic events.

2. A range of intense aversive emotions will be associated with symptomatology.

3. Coupled emotions will be associated with symptomatology and dominant emotions other than fear will be identified in participants experiencing symptoms of PTSD.

4. Schematic-level representations will be significantly associated with measures of emotion.

Method

Design

A prospective design was adopted. Participants were assessed up to three times following consecutive therapy appointments.

Participants

The participants were an opportunistic sample of 12 individuals receiving psychotherapy at a specialist centre for PTSD. Although this was an opportunistic sample, efforts were made to obtain a reasonably representative mix of patients normally seen at this centre. The sample comprised six males and six females. Six of the individuals had experienced a single traumatic event, while the other six had experienced repeated or multiple events. A range of traumatic events was represented in the sample. These included assaults; road traffic accidents; other serious accident; childhood sexual abuse; suicide of friends or partners; and combat. Three individuals experienced traumatic events in their childhoods.

The mean time since the index traumatic event at initial research assessment was 112 months (s.d.=107). However, this figure was inflated somewhat by the individuals who experienced childhood trauma. Excluding these individuals, the mean time was 84 months (s.d. =25). The mean age of the sample was 35.7 years (s.d.=8.0).

Cognitive-Behavioural Therapy (CBT) was the treatment of choice for 10 of the participants. This would normally include an exposure component, but the extent of this was not formally assessed. Three of these 10 individuals also attended a supportive group programme, which had a problem-solving and generally non-directive focus. One of this three also attended art therapy. The remaining two participants received Interpersonal Therapy (IPT, e.g. Klerman, Weissman, Rounsaville & Chevron, 1984). The mean time in therapy at initial research assessment was 10.3 months (s.d. 8.9). The author was the therapist for three of the participants.

One participant dropped out after completing two sessions. Two of the participants were only seen twice due to time constraints. The remaining nine were seen on three occasions.

Measures

Interview

Participants were interviewed in each session. They were asked initially to talk generally about how they felt they had been affected by the traumatic event. They were then asked how they currently felt the traumatic event had affected their views of themselves, other people, and the world. Further prompt questions were asked if necessary. The interviews were recorded on audiotape and the researcher took notes during the interview. These notes, supplemented by audiotape if necessary, were then used to identify schemata that corresponded with those identified by Power and Brewin (1997) and Janoff-Bulman (1989; 1992). These schemata are shown in Table 1.

Table 1: Schematic Themes

Schemata	**Description**
1. The Self as Powerless	Feeling powerless to achieve life goals; unable to influence aversive events; lacking control.
2. The Self as Non-existent	Feeling overwhelmed by stronger personalities; lack or loss of self-identity.
3. The Self as Futureless	Feeling valued goals have been lost; purposelessness; sense that the world is chaotic and meaningless.
4. The Other as Abandoning	Feelings of being rejected by a valued other with associated feelings of loss.

Schemata	Description
5. The Other as Betraying	Feelings of having been badly treated by a trusted other.
6. The Other as Hostile	Feeling threatened by others.
7. The World is Benevolent	Feeling that more good things than bad will happen and that people are inherently good.
8. The World is Meaningful	Feeling that the world operates in understandable and predictable ways, for example that good things will happen to good people.
9. The Self is Worthy	Feeling that the self is competent and moral.

Schemata 1 to 6 are proposed in Power and Brewin (1997) as a "taxonomy of themes" commonly encountered in psychotherapy. Schemata 7 to 9 are advanced by Janoff-Bulman (1989, 1992) as "fundamental assumptions" commonly destroyed by the experience of traumatic events. It should be noted that Power and Brewin (1997) also proposed a theme of "The Self as Inferior". This was not included in the current research project because it was felt to overlap closely with the fundamental assumption "The Self is Worthy". The rationale for classifying schemata identified at interview into broad themes was twofold. Firstly, it was hoped that this would reduce subjectivity in interpretation and therefore increase reliability. Secondly, the focus of the current study was to investigate general trends within a sample of individuals with PTSD, rather than the detail of each individual. The use of broad themes facilitated group level analysis. Inevitably, however, this led to a loss of individual detail. This issue is developed in the Discussion.

Attempts were not made to assess the relative intensity of particular schemata identified from the interviews because it was felt that this would be too subjective and unreliable. If a schema was identified, it was simply determined whether the content related to it was overall positive or negative in tone. More detailed

information on the process of schemata classification can be found in the Procedure section.

As the interview was specifically developed for this study, no pre-hoc information on reliability or validity was available. An inter-rater reliability analysis was performed (see Results section).

Clinician Administered PTSD Scale

The Clinician Administered PTSD Scale (CAPS; Blake, Weathers, Nagy, Kaloupek, Gusman, Charney & Keane, 1990) is a structured interview that can be used both to diagnose PTSD and to assess symptom severity. Separate scores can be calculated for the central PTSD symptom clusters of re-experiencing, avoidance, and hyperarousal, together with a total score that also takes account of the impact of PTSD symptoms on an individual's functioning.

The CAPS has been demonstrated to be a reliable and valid measure that is sensitive to clinical change (Weathers, Keane & Davidson, 2001). Weathers et al. (2001) note that the CAPS has been used as the main diagnostic or outcome measure in over 200 studies. It was validated on a group of combat veterans, demonstrating convergent validity with other measures of PTSD, high internal consistency, and excellent inter-rater reliability (Blake et al., 1990). It has subsequently been demonstrated to be valid and reliable in a range of populations, for example those who have experienced road traffic and other accidents, sexual and physical assault, and traumatic loss of a significant other (Weathers et al., 2001). Summarising a large number of investigations, Weathers et al. (2001) note that inter-rater reliability has been consistently reported at levels of 0.90 and above. Internal consistency was typically between 0.80 and 0.90. Convergent validity has been shown, with typical correlations of 0.70 or better between the CAPS and other measures of PTSD. However, there is less evidence for discriminant validity. Weathers et al. (2001) note that the high levels of co-morbidity associated with PTSD may interfere with accurate assessments of discriminant validity, but suggest that this needs further research.

The CAPS was administered in the first and final sessions.

Impact of Event Scale – Revised

The Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997) is a 22-item self-report instrument designed to measure the central PTSD symptom clusters of re-experiencing (referred to as Intrusion), avoidance, and hyperarousal.

The IES-R was based on the earlier Impact of Event Scale (IES; Horowitz, Wilner & Alvarez, 1979). The IES is a 15-item self-report instrument designed to measure intrusion and avoidance. Initial findings from a sample of outpatients with "stress syndromes" suggested that the measure was internally consistent and had acceptable test-retest reliability (correlation coefficients were 0.87 for intrusion and 0.79 for avoidance). Weiss and Marmar (1997) summarise subsequent psychometric investigations of the IES, which have confirmed test-retest reliability and internal consistency. They also note that the IES has been used with individuals who have experienced a wide range of traumatic events, including civilian accidents, criminal and sexual assaults and combat.

In the IES-R, the Intrusion and Avoidance subscales are virtually unchanged from the IES (Weiss & Marmar, 1997). One additional item is added to the intrusion subscale to assess re-experiencing accompanied by dissociation. The most significant change from the IES is the inclusion of six new items to measure hyperarousal. Weiss and Marmar (1997) report the findings of psychometric evaluation of the IES-R, from a population of emergency services personnel. The IES-R demonstrated acceptable internal consistency (alpha for Intrusion = 0.87, for Avoidance = 0.85 and for Hyperarousal = 0.79) in a sample of 429 individuals. Test-retest reliability varied depending on the time since the traumatic event and the time between test and retest, but was found to be around 0.90 for all subscales in a sample of individuals tested 6 weeks after trauma and then again 6 months later.

The IES-R was administered in each session.

Dissociation Questionnaire

The Dissociation Questionnaire (DIS-Q; Vanderlinden, 1993) is a 63-item self-report measure. It was included to provide a measure of dissociation, which has often been noted as a clinical feature of PTSD (e.g. Brewin et al., 1996; Horowitz, 1997; Ehlers & Clark, 2000).

Vanderlinden (1993) reported that the DIS-Q showed acceptable test-retest reliability and was able to differentiate patients with dissociative disorder from other psychiatric patients, and psychiatric patients from normal controls. Vanderlinden (1993) suggested that the DIS-Q measured 4 factors: identity confusion and fragmentation; loss of control over behaviour, thought, and emotion; amnesia; and episodes of "absorption" (enhanced concentration). However, the internal consistency of the four subscales originally identified was variable. Bernstein, Ellason, Ross and Vanderlinden (2001) reviewed factor analytic studies of the DIS-Q. They argued that the differing frequency of occurrence of the symptoms assessed by the DIS-Q resulted in range restriction and the false impression of multidimensionality in factor analyses. They therefore suggested deriving a unitary measure of dissociation based on the total score of the DIS-Q was more valid. This recommendation was adopted in the current study, and the mean of all 63 items was used to produce a single measure of dissociation.

The DIS-Q was administered in each session.

Basic Emotions Scale

The Basic Emotions Scale (BES; Power, submitted) is a 20-item self-report measure that provides scores for the emotions of anger, sadness, disgust, fear and happiness.

Power (submitted) reported psychometric properties of the BES, based on a primarily student sample of 219 participants. Acceptable internal reliability was found for all of the subscales (Cronbach alpha ranged from 0.790 to 0.842). Test-retest reliability was not assessed.

The intention in developing the BES was to test the ability of an approach predicated on basic emotions to model self-reported emotion (Power, submitted). This approach draws on the SPAARS model (Power & Dalgleish, 1997, 1999) to suggest that complex emotions arise from coupling, i.e. combinations of basic emotions. Confirmatory factor analyses suggested that the model that best fitted the data included the five basic emotions and enabled them to be inter-correlated with each other. This supported the proposal that self-reported emotional experience could best be understood in terms of basic emotions that combine to create more complex emotions. However, Power (submitted) notes the possibility that delayed recall of complex emotions may tend to falsely combine emotions that occurred sequentially, making them seem as if they are coupled.

In summary, while the psychometric properties of the BES need further investigation to establish it as a standardised measure, it was the only available instrument that shared the same conceptual basis as the SPAARS model. It therefore seemed the most appropriate measure to use in this study.

The BES was administered in every session.

Clinical Outcomes in Routine Evaluation

The Clinical Outcomes in Routine Evaluation (CORE; CORE system group, 1998) is a 34-item self-report measure. Mean scores can be calculated for four subscales: Well-being, Problems, Functioning and Risk. Two further subscales provide summary mean scores. These are Total score and Total (Excluding Risk).

The CORE was developed as a standardised measure of mental health outcomes, designed to be administered at the start and end of treatment, though it can also be used to measure interim change (Evans, Connell, Barkham, Margison, McGrath, Mellor-Clark, & Audin, 2002). Evans et al. (2002) report psychometric evaluations of the CORE. These suggest excellent internal consistency (Cronbach's alpha 0.75 to 0.95 across the subscales). Test-retest reliability was slightly low for the Risk subscale (0.64) but excellent for the other subscales (0.87 to 0.91). The CORE discriminated between clinical and non-clinical samples and demonstrated

convergent validity with a range of psychometric measures. It also appeared sensitive to clinically significant change.

As a standardised measure of clinical outcomes the CORE was included partly to measure change over the course of the study. The other reason for using the CORE was that it covers a wide range of psychological and other symptoms, whereas the other symptom measures were focused on PTSD.

The CORE was administered in the first and final sessions.

Significant Others Scale

The Significant Others Scale (SOS; Power, Champion & Aris, 1988) provides a self-report measure of perceived emotional and practical social support. Power et al. (1988) argue that in order to assess the quality of social support it is not necessary to evaluate every individual in a support network. Instead, accurate assessments can be obtained by evaluating the quality of an individual's key relationships. The version that was used in the current study enabled participants to nominate up to three individuals.

A number of variables can be calculated from the SOS. The current study focused on the two summary variables of discrepancy between actual and ideal emotional support, and discrepancy between actual and ideal practical support. Power et al. (1988) found significant differences in these variables between individuals identified as depressed on the self-report GHQ-28 measure (Goldberg & Hillier, 1979), individuals with other significant symptoms on the GHQ-28, and symptom-free individuals. Power (1988) found that the initial measure of discrepancy in emotional support interacted with subsequent life events in predicting depression 6 months later. Acceptable test-retest correlations have been reported for the SOS (Power et al., 1988).

The SOS was administered in the first and final sessions.

Structured Clinical Interview for DSM-IV Axis I Disorders – Clinician Version

The Structured Clinical Interview for DSM-IV Axis I Disorders – Clinician Version (SCID-CV; First, Spitzer, Gibbon & Williams, 1997) is an extensive structured interview designed to diagnose the presence of psychiatric disorders identified within DSM-IV. It was included to assess co-morbidity.

First et al. (1997) summarise findings related to the psychometric properties of the SCID-CV. Some studies of inter-rater reliability have reported excellent levels of agreement, with kappa coefficients between 0.70 and 1.00 in designs where all raters had access to the same information (for example, videotaped interviews). In a study using the DSM-III-R version of the SCID-CV (Williams, Gibbon, First et al., 1992) lower kappa coefficients were found when interviewers were unable to draw on supporting information from talking to therapists or reviewing patients' notes, but inter-rater reliability was still comparable to other diagnostic instruments. First et al. (1997) note that the validity of the SCID-CV is difficult to assess, because of the lack of a "gold standard" in psychiatric diagnosis to which it could be compared. However, evidence has been found of increased detection of psychiatric disorders co-morbid with substance abuse (Kranzler, Ronald, Burleson et al., 1995) when using the SCID-CV rather than standard clinical assessment.

The SCID-CV was administered in the first session only. The PTSD section of the SCID-CV was not used, because of its overlap with the CAPS. Weathers et al. (2001) suggest that the CAPS is at least as effective as the SCID-CV in diagnosing PTSD.

Procedure

The study received ethical approval from the Lothian Primary Care/Public and Mental Health Research Ethics Committee.

Potential participants were asked by their therapists if they would consider taking part in the research project and were given an information sheet. Written informed consent was obtained from all participants.

Those who agreed were then interviewed following consecutive therapy sessions. The time between assessments therefore varied considerably, depending on the frequency of therapy sessions. The mean time between assessments was 19.3 days (s.d.=14.6 days).

Inclusion / exclusion criteria

The focus of interest was change in Schematic-level representations and symptomatology and it was hypothesised that change would occur throughout therapy. Therefore, the only requirements that were imposed regarding therapy course were that participants had to be in active therapy (i.e. not in assessment or maintenance phases) and had to have at least three sessions of therapy to complete at the time they entered the research. The requirement for at least three remaining sessions of therapy was imposed because it was intended to assess each participant three times during the course of therapy.

The only exclusion criterion was that a participant's first language had to be English. This was imposed because of the importance of accurately identifying schemata in the interviews. Participants did not have to meet formal diagnostic criteria for PTSD to be included. Instead, the less stringent criterion that they had to have experienced a psychological reaction to a traumatic event, which included at least one of the main symptom clusters of PTSD (re-experiencing, avoidance, or hyperarousal), was applied. This meant that individuals whose primary presenting problem was not PTSD (for example, depression) could be included, if they also had significant symptomatology normally associated with PTSD. It was decided to use this less stringent criterion to increase the range of potential participants. It was not thought essential that participants meet full diagnostic criteria for PTSD in order for links between schemata and symptomatology to be investigated. If a significant number of participants had not met diagnostic criteria for PTSD, as assessed by the CAPS, then statistical comparisons would have been performed between those who did and did not meet diagnostic criteria. However, only one individual scored below the moderate PTSD threshold on the CAPS (see Results).

Format of assessment sessions

The interview to identify Schematic-level representations was performed first. In the first and final sessions, the CAPS was administered next. Then the IES-R, BES, and DIS-Q were completed by the participant. In the first and final sessions, the participant then completed the CORE and the SOS. In the first session only, the SCID-CV was then administered. Also in the first session only, any demographic information that had not arisen during the interview was then collected (e.g. date of birth, date the traumatic event occurred, date therapy started, etc). This information was verified from participants' medical records.

Procedure for identification of Schematic-level representations

Notes were taken during the interview of statements that were thought to be related to Schematic-level representations. If necessary, the participant was asked to talk about particular topics in more detail. Attention was also paid to non-verbal behaviour during the interview that would increase confidence that the individual was describing information relevant to Schematic-level representations (for example, signs of distress while talking). Following the interview, the presence or absence of the schematic themes was rated. As explained above, in an attempt to improve reliability, the intensity of the theme was not rated. Instead, it was simply determined whether it was positive or negative in overall tone. This rating was normally based on the interview notes alone. If it was felt that these were insufficiently detailed, then the audiotape recording was utilised.

Examples of statements from the interviews that were interpreted as evidence of the schematic themes are shown in Table 2. In some cases, examples of particular themes were not found in any of the participants. These are noted in Table 2.

Table 2: Examples of statements consistent with schematic themes

Theme	**+/-**	**Example Statement**
The Self as Powerless	+	"I'm still getting the thoughts [about the traumatic event] but they're not stopping me from doing things
	-	"It doesn't seem to matter what I do... things improve for a while and then I'll suddenly be back to square one."
The Self as Non-existent	+	Not found in sample.
	-	Not found in sample.
The Self as Futureless	+	"I'm looking forward to things, starting to plan again."
	-	"I just can't see myself in any kind of job..."
The Other as Abandoning	+	Not found in sample.
	-	"I don't like to get close to people... I've found once they find out things they don't want to know me... "
The Other as Betraying	+	Not found in sample.
	-	"How could he leave me to bring up the children on my own..."
The Other as Hostile	+	Not found in sample.
	-	"I'm always watching out now when I'm out in public... I don't like it if I can't see what people are up to around me."
The World is Benevolent	+	"I'm maybe a bit more aware of what could go wrong now, but I think that's a good thing ... maybe I'm growing up"
	-	"I was really aware that something could go wrong when I was driving..."

Theme	+/-	Example Statement
The World is Meaningful	+	"I still feel like things happen for a reason... but sometimes it's not clear at the time..."
	-	"... all these things are happening around the world to people, Bosnia and Iraq ...you just never know what's going to happen."
The Self is Worthy	+	"I think it's made me a better person... I think I've got more sympathy now for other people's problems."
	-	"I just feel so sad and useless ...I am sad."

It may be noted from Table 2 that some of the schematic themes are similar and may even overlap in particular statements. For example, one participant spoke about rediscovering her plans for the future, which was interpreted as signifying positive representations for both "Self as Powerless" and "Self as Futureless". It is acknowledged that this overlap in schemata may have made the classification less reliable. This issue will be returned to in the Discussion.

Results

Preliminary data analysis

Inspection of the data suggested that most variables were distributed normally, within acceptable limits and significant anomalies were not found. However, due to the small sample size, non-parametric techniques were used. Also, because of the number of analyses that were performed on the small sample, the alpha level was set at the more conservative 0.01 level, rather than the usual 0.05 level, in order to reduce the risk of chance effects resulting in false positive findings.

Before reviewing the evidence for the specific hypotheses that are investigated in this thesis, some general characteristics of the sample will be described and the results of the inter-rater reliability analysis that was performed will be reported.

Characteristics of the Sample

The CAPS scores at Session 1 suggested that most of the individuals were experiencing clinically significant levels of PTSD. The mean total CAPS score was 68.58 (s.d.=27.66). Weathers et al. (2001) suggest that CAPS total scores between 60 and 79 represent severe PTSD symptomatology. This would be consistent with referrals to a specialist PTSD centre. Using the provisional severity score guidelines of Weathers et al. (2001), the classifications for the participants are shown in Table 3.

Table 3: CAPS classifications

Classification	Number of Participants
Asymptomatic / few symptoms	0
Mild PTSD / subthreshold	1
Moderate PTSD / threshold	4
Severe PTSD	3

Classification	Number of Participants
Extreme PTSD	4

Evidence was found that most participants were also experiencing other clinically significant psychological problems. The mean score at Session 1 for the CORE summary variable Total (Excluding Risk) was 1.99 (s.d.=0.95). This is above the clinical cut-off scores for both male and female clinical populations. Inspection of the data set confirmed that 9 individuals scored at or above the relevant clinical cut off, while 3 scored below it.

The SCID-CV, administered at the first session, identified co-morbidity in 8 of the 12 participants. Major Depressive Episode was the most common co-morbid diagnosis, found in 6 individuals, with Dysthymic Disorder identified in 1 other participant. Another individual had co-morbid diagnoses of Panic Disorder with Agoraphobia and Social Phobia. Of the 8 participants for whom co-morbidity was found, 3 individuals also met criteria for current Alcohol Abuse and a further 2 met criteria for past Alcohol Abuse. 2 individuals met criteria for past Substance Abuse.

Therefore, initial assessments suggested that this was a sample of individuals who experienced significant PTSD and other symptomatology, displaying high levels of co-morbidity, particularly depression, consistent with the literature on PTSD in clinical populations (e.g. Foa et al., 2000). As such, it seems reasonable to suggest that although they were an opportunistic sample, they can be considered to be reasonably representative of clinical populations in specialist PTSD centres.

Inter-rater reliability analysis

The interview to assess Schematic-level representations was a key measure in this study. However, as discussed in the Measures section above, as a new assessment there was no pre-hoc information on the reliability and validity of the interview. Obviously, this was an important issue, because the psychometric characteristics of the interview would influence the findings of this study. As an initial step in

investigating the psychometric characteristics of the interview, it seemed appropriate to consider whether these schemata could be reliably identified, or whether they were significantly influenced by the author's biases or theoretical orientation. To address this issue, an inter-rater reliability analysis was performed.

The other rater reviewed the notes of ten randomly selected interviews and rated whether schemata were present or absent, and whether they were felt to be positive or negative in overall content. The other rater had a master's level qualification in applied social research and extensive experience of interviewing. A sample interview, which was not subsequently used in the inter-rater reliability analysis, was discussed jointly as a practice exercise before the ten interviews were rated.

Separate Kappa coefficients were calculated to assess levels of agreement on whether schemata were present or absent; and if they were positive or negative in content. The Kappa coefficient for the presence or absence of schemata was 0.486. For positive schemata, Kappa was 0.509 and for negative schemata, Kappa was 0.658. All of these values were in the fair to good agreement range. While this was not particularly impressive, the levels of agreement were above chance and were therefore felt to be sufficient to proceed with the analysis. Issues regarding the validity and reliability of the interview will be returned to in the Discussion.

Description of Schematic-level representations found in the sample

Using the templates discussed above (see Method), which were identified by Power and Brewin (1997) and Janoff-Bulman (1989, 1992), schemata were found in every participant. At first interview, the number of schemas present varied from 3 to 6 (mean=4.83, s.d.=0.94). Breaking this down into positive and negative schemata showed that positive schemata ranged from 0 to 2 (mean=0.58, s.d.=0.79) and negative schemata ranged from 2 to 6 (mean=4.25, s.d.=1.36). At first interview, evidence of at least one of the Power and Brewin (1997) core themes was found for every participant and all of the core themes except "the Self as Non-existent" were found in at least one participant. More detailed information is shown in Table 4 below.

Table 4: Core themes identified at first interview

Core Theme	Number of Participants (Interview 1)
The Self as Powerless	10
The Self as Non-existent	0
The Self as Futureless	5
The Other as Abandoning	1
The Other as Betraying	9
The Other as Hostile	8

At the same time, the applicability of the schemata identified by Janoff-Bulman (1989, 1992) was confirmed. Negative beliefs about the Benevolence of the World were found for every participant. Beliefs about the Meaningfulness of the World and the Self as Worthy were not universal but were still found in 6 and 7 of the participants respectively.

Some change in Schematic-level representations could be observed over the course of the three interviews. However, the degree of change was limited, as shown in Figures 1 and 2 below. It was therefore decided that associations between changes in Schematic-level representations, emotions and symptomatology would not be investigated further.

Figure 1: Changes in Positive Schematic-level Representations Across Interviews

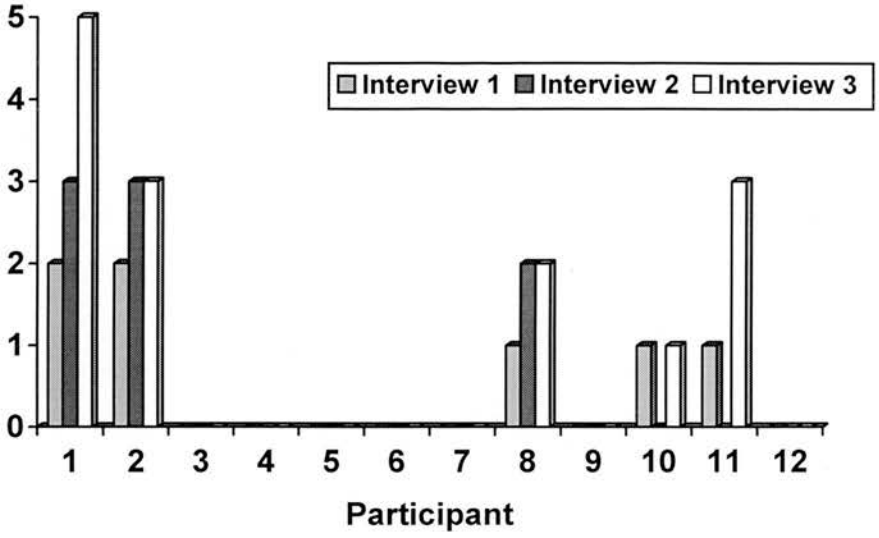
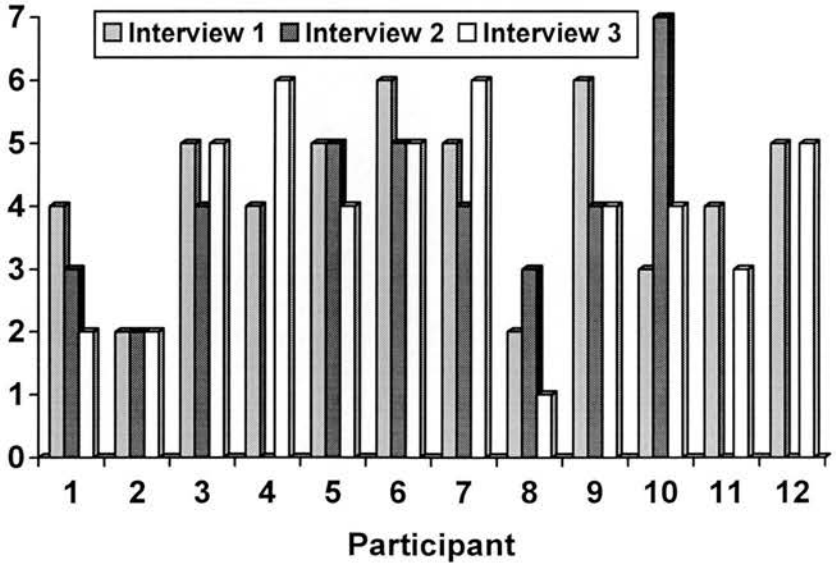


Figure 2: Changes in Negative Schematic-level Representations Across Interviews



Investigation of the specific hypotheses

Hypothesis 1: Schematic-level representations will be associated with symptomatology.

To test this hypothesis, Spearman correlation coefficients (2-tailed) were calculated for the positive and negative schemata with the various symptom measures (CAPS, IES-R, DIS-Q and CORE) at each of the three sessions. The schema "the Self as Non-existent" was excluded because it was not found in any participant at any of the interviews. The results of this analysis are summarised in Tables 5 to 7 below. Meaningful correlations could not be calculated for some of the schemata, due to only one of the participants endorsing them at particular interviews. These schemata are not shown in the tables.

Table 5: Session 1 Spearman correlations (2-tailed) between schemata and symptom measures (N = 12).

Schemata		Powerless		Futureless	Betraying	Hostile	Meaningful	Worthy	
Positive/ Negative		+	-	-	-	-	-	+	-
CAPS	Re-exp								
	Avoid			.822 .001					.860 <.0005
	Hyper								
	Total	-.718 .009							.834 .001

Note: No significant correlations at the 0.01 level were found between schemata and IES-R or CORE measures.

Table 6: Session 2 Spearman correlations (2-tailed) between schemata and symptom measures (N = 9)

Schemata		Powerless		Futureless		Abandoning	Betraying	Hostile	Meaningful	Worthy	
Positive/ Negative		+	-	+	-	-	-	-	-	+	-
IES-R	Avoid		.830 .006								
	Intrusion										
	Hyper	-.836 .005									
DIS-Q											.825 .006

Table 7: Session 3 Spearman correlations (2-tailed) between schemata and symptom measures (N = 12 for IES-R and DIS-Q; N = 11 for CAPS and CORE)

Schemata		Powerless		Futureless		Abandoning	Betraying	Hostile	Benevolent	Meaningful		Worthy	
Positive/ Negative		+	-	+	-	-	-	-	-	+	-	+	-
CAPS	Re-exp												.840 .001
	Avoid											-.750 .008	
	Hyper												

Schemata		Powerless		Futureless		Abandoning	Betraying	Hostile	Benevolent	Meaningful		Worthy	
Positive/ Negative		+	-	+	-	-	-	-	-	+	-	+	-
	Total		.751 .008										.837 .001
IES-R	Avoid												
	Intrusion												
	Hyper	-.769 .003	.760 .004		.769 .003								.760 .004
DIS-Q													
CORE	Well	-.784 .004	.816 .002		.784 .004								
	Problems		.751 .008	-.775 .005									
	Function	-.837 .001	.866 .001		.837 .001								
	Risk												
	All	-.837 .001	.866 .001		.837 .001								
	All-Risk	-.837 .001	.866 .001		.837 .001								

Key for Tables 5 to 7:

CAPS: Re-exp = Re-experiencing, Avoid = Avoidance, Hyper = Hyperarousal.
IES-R: Avoid = Avoidance, Hyper = Hyperarousal.
CORE: Well = Well-being.
Significant correlations are shown, with the p values given underneath the correlation value. Non-significant correlations are not shown.

There is a risk of course in performing this number of correlations that spurious associations will be found simply by chance. However, the use of the non-parametric correlation (Spearman's rho), and the more stringent alpha level of 0.01 were intended to control for this. It can be seen that many of the Schematic-level representations were not significantly associated with symptomatology. However, a greater number of significant associations were found than would be expected due to chance alone. Also, the significant correlations were all in the direction predicted by the hypothesis, namely negative Schematic-level Representations were associated with greater symptomatology and positive Schematic-level Representations were associated with less symptomatology.

The correlations between particular Schematic-level Representations and symptom measures were somewhat inconsistent across the three sessions. However, the Schematic-level Representations "Self as Powerless" and "Self as Worthy" were associated with symptom measures at all three sessions. Positive Schematic-level Representations relating to "Self as Powerless" were associated with lower (better) CAPS total scores at Session 1, while negative Schematic-level Representations relating to "Self as Powerless" were associated with higher (worse) CAPS total scores at Session 3. The CAPS was not administered at Session 2. Positive Schematic-level Representations relating to "Self as Powerless" were associated with lower (better) scores on the IES-R Hyperarousal subscale at Sessions 2 and 3, but not at Session 1. Positive and negative Schematic-level Representations related to "Self as Worthy" were related to most of the CORE variables at Session 3, but not Session 1 (the CORE was not administered at Session 2). Negative Schematic-level Representations of "Self as Worthy" were associated with CAPS Avoidance and CAPS total scores at Session 1, and with CAPS Re-experiencing and CAPS total scores at Session 3. Less consistent relationships were found with the Dissociation Questionnaire (Session 2 only), and IES-R Hyperarousal (Session 3 only).

Somewhat inconsistent associations between Schematic-level Representations relating to "Self as Futureless" and symptomatology were found at Session 1 and Session 3. At session 1 only, higher (worse) CAPS Avoidance scores were associated with negative Schematic-level Representations of "Self as Futureless",

while at Session 3 only, higher (worse) IES-R Hyperarousal scores were associated with negative Schematic-level Representations. Higher (worse) scores on the CORE at Session 3 were also associated with Schematic-level Representations related to "Self as Futureless".

These results appeared to provide equivocal support for Hypothesis 1. Significant associations were found between some of the Schematic-level Representations identified by the interviews and the symptom measures. However, there was inconsistency in the associations found. Also, most of the Schematic-level Representations identified by the interviews were not significantly associated with symptomatology. These issues will be returned to in the Discussion.

Hypothesis 2: Emotions will be associated with symptomatology.

Spearman correlations (2-tailed) were calculated between the BES emotion variables and the symptom measures. A summary variable of negative emotionality was also calculated. This was the mean of the scores on the BES emotional dimensions of Anger, Sadness, Disgust and Fear. The correlations are shown in Tables 8 to 10 below.

Table 8: Session 1 Spearman correlations (2-tailed) between BES and symptom measures (N=12)

Variable	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
CAPS Re-exp						
CAPS Avoidance					-.770 .003	
CAPS Hyper						
CAPS Total					-.716 .009	
IES-R Avoidance	.752 .005			.760 .004		.739 .006

Variable	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
IES-R Intrusion						
IES-R Hyper	.748 .005					
DIS-Q			.761 .007	.938 <.0005		.820 .002
CORE Well-being	.769 .003	.836 .001	.726 .008	.808 .001		.935 <.0005
CORE Problems	.766 .004	.874 <.0005	.736 .006	.844 .001		.907 <.0005
CORE Function	.773 .003	.825 .001	.806 .002	.851 <.0005		.904 <.0005
CORE Risk		.841 .001	.875 <.0005	.758 .004		.848 <.0005
CORE Total	.826 .001	.895 <.0005	.778 .003	.876 <.0005		.949 <.0005
CORE Total-Risk	.812 .001	.888 <.0005	.757 .004	.862 <.0005		.939 <.0005

Table 9: Session 2 Spearman correlations (2-tailed) between BES and symptom measures (N=9)

Variable	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
IES-R Avoidance	.847 .004	.899 .001		.936 <.0005	-.924 <.0005	.916 .001
IES-R Intrusion	.916 .001	.800 .01				.833 .005
IES-R Hyper	.932 <.0005	.865 .003		.841 .004	-.834 .005	.865 .003
DIS-Q			.912 .001		-.803 .009	

Table 10: Session 3 Spearman correlations (2-tailed) between BES and symptom measures (N = 12 for IES-R and DIS-Q; N = 11 for CAPS and CORE)

Variable	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
CAPS Re-exp		.737 .01		.785 .004		.744 .009
CAPS Avoidance						
CAPS Hyper					-.763 .006	
CAPS Total				.782 .004		.745 .008
IES-R Avoidance				.756 .004		
IES-R Intrusion	.827 .001	.891 <.0005	.841 .001	.759 .004		.863 <.0005
IES-R Hyper	.879 <.0005	.817 .001	.758 .004			.844 .001
DIS-Q			.808 .001			
CORE Well-being	.742 .009					
CORE Problems		.788 .004				
CORE Function						
CORE Risk	.862 .001	.855 .001	.839 .001	.790 .004		.853 .001
CORE Total	.753 .007	.756 .007				.745 .008
CORE Total-Risk	.740 .009	.747 .008				.736 .01

It can be seen that significant correlations were found between the measures of emotion and many of the symptom variables, in every session. As discussed under Hypothesis 1, some significant associations would be expected due simply to chance, due to the large number of correlation coefficients that were calculated. Again, however, the use of non-parametric correlations and the more stringent alpha level of 0.01 should militate against this. The significant correlations were all in the direction predicted by the hypothesis, namely greater negative emotions were associated with greater symptomatology and greater happiness was associated with less symptomatology. As with Hypothesis 1, however, the patterns of correlations were somewhat inconsistent. To pick just one example, higher (worse) CAPS Re-experiencing scores were significantly associated with Sadness, Fear and Negative Emotionality scores at Session 3, but with none of the emotion variables at Session 1. Therefore, although as a whole these results would seem to provide support for Hypothesis 2, confidence in them would be increased if this inconsistency could be explained. This issue will be returned to in the discussion.

Bearing this caveat in mind, it is interesting that many of the symptom variables were significantly correlated more than one of the basic emotions and with the Total Negative Emotionality variable (which of course is strongly inter-correlated with the basic emotions). This provides support for Hypothesis 3: that a wider range of intense aversive emotions is associated with greater dysfunction, consistent with the SPAARS model.

Hypothesis 3: A wider range of intense aversive emotions is associated with greater dysfunction.

To investigate this hypothesis further, it was attempted to derive an estimate of coupled emotions, hypothesised by SPAARS to be a potent source of emotional dysfunction (e.g. Power, 1997; 1999). This was done by multiplying together the Session 1 BES scores for the various combinations of negative basic emotions, such as Sadness-Fear, Anger-Disgust, etc. Multiplication would result in a substantial increase in the derived scores if individuals scored highly on both the combined basic emotions. This should make any effect of coupled emotions more apparent. Since

this was a derived measure, which had not been validated, scores were only calculated for Session 1, as an initial exploration. The scores for the coupled emotions were then correlated with the symptom measures, as shown in Table 11

Table 11: Session 1 Correlations (2-tailed) between coupled emotions and symptom measures (N=11 for DIS-Q, 12 for other variables)

Variable	Anger + Fear	Anger + Sadness	Anger + Disgust	Sadness + Fear	Sadness + Disgust	Disgust + Fear
CAPS Re-exp						
CAPS Avoidance						
CAPS Hyper						
CAPS Total			.711 .01			
IES-R Avoidance	.811 .001		.804 .002			.727 .007
IES-R Intrusion			.729 .007		.711 .01	
IES-R Hyper						
DIS-Q	.827 .002		.818 .002	.782 .004		.882 <.0005
CORE Well-being	.804 .002	.804 .002	.895 <.0005	.926 <.0005	.884 <.0005	.821 .001
CORE Problems	.818 .001	.818 .001	.902 <.0005	.923 <.0005	.867 <.0005	.804 .002
CORE Function	.832 .001	.741 .006	.909 <.0005	.888 <.0005	.881 <.0005	.846 .001
CORE Risk	.717 .009	.749 .005	.842 .001	.873 <.0005	.873 <.0005	.866 <.0005
CORE Total	.867 <.0005	.846 .001	.944 <.0005	.951 <.0005	.916 <.0005	.846 .001
CORE Total-Risk	.853 <.0005	.839 .001	.930 <.0005	.944 <.0005	.895 <.0005	.832 .001

Table 11 shows that many of the symptom measures were significantly correlated with one or more of the derived measures of coupled emotions at Session 1. In the case of the CORE symptom variables, all of the possible coupled emotion combinations were significantly correlated. In contrast, most of the CAPS scores were not significantly related to coupled emotions. As reported under Hypothesis 2 (Table 8), none of the CAPS scores at Session 1 were significantly associated with any of the negative basic emotions, from which the purported derived measure of coupled emotions was calculated. Therefore it is perhaps unsurprising that CAPS scores were generally not significantly correlated with the derived measures. However, this does not explain the lack of significant correlations between the CAPS and the BES scores. This issue will be returned to in the Discussion. For the moment, it seems reasonable to suggest that some support has been found for the SPAARS proposal that coupled negative emotions are associated with greater dysfunction, although it must be acknowledged that the derived measure has not been validated.

Although PTSD is classified as an anxiety disorder, the significant associations found between a range of basic and coupled emotions and symptomatology might tentatively suggest that a more general model of emotional functioning, such as SPAARS, might support a better understanding of individuals with PTSD. To investigate this further, the dataset was inspected. Table 12 shows the BES scores for each participant at each session, identifying which participants reported feeling other emotions as strongly or more strongly than fear. Each BES score ranges from 1.00 (low) to 7.00 (high).

Table 12: Dominant emotions other than fear

	Session 1		Session 2		Session 3	
Participant	Fear	Other emotions of equal or greater intensity	Fear	Other emotions of equal or greater intensity	Fear	Other emotions of equal or greater intensity
1	3.75	Happiness (4.75)	3.50	Happiness (6.00)	3.75	Happiness (6.00)
2	4.25	None	4.25	None	3.00	Happiness (4.50)
3	3.75	Anger (3.75)	4.50	Anger (4.75)	4.00	Anger (4.75)
4	5.00	Sadness (5.75)	.	.	4.50	Anger (6.25) Sadness (6.25) Disgust (6.00)
5	5.75	Sadness (6.00) Anger (5.75)	7.00	None	7.00	None
6	6.00	None	6.50	None	6.75	None
7	6.50	Anger (7.00) Disgust (6.75) Sadness (6.50)	6.50	Disgust (7.00)	6.25	Disgust (7.00) Anger (6.75) Sadness (6.25)
8	2.50	Happiness (6.25)	3.50	Happiness (5.25) Anger (4.25)	4.50	None
9	4.00	Anger (5.25) Sadness (5.25)	3.75	Anger (4.25) Sadness (4.25) Happiness (4.00)	1.75	Anger (2.00)
10	5.25	Anger (6.75) Happiness (5.25)	7.00	Sadness (7.00) Disgust (7.00)	5.25	Anger (5.75) Disgust (5.25)
11	5.50	None	.	.	5.50	None
12	2.00	Anger (3.25) Happiness (3.00) Sadness (2.75) Disgust (2.00)	.	.	4.75	Anger (4.75)

It can be seen that it was relatively uncommon for fear to be the most prominent emotional state. However, over the course of the three sessions, 5 individuals could be identified for whom fear was the dominant emotion on at least one occasion. Of course, the BES is still in its early stages of development as a measure, which limits the strength of the conclusions that can be drawn. For example, it is not clear at present what would represent a significant difference between scores for different basic emotions. Overall, however, there does appear to be some evidence to support

the contention that a more general model of emotional functioning might have value in understanding PTSD. This issue will be returned to in the Discussion.

Hypothesis 4: Schematic-level representations will be significantly associated with measures of emotion.

To test this hypothesis, Spearman correlation coefficients (2-tailed) were calculated between Schematic-level Representations identified at interview and the BES basic emotions and the derived measure of total negative emotionality. The resulting correlations are summarised in Tables 13 to 15. Meaningful correlations could not be calculated for some of the schemata, due to only one of the participants endorsing them at particular interviews. These are not shown.

Table 13: Spearman correlations (2-tailed) between schemata, basic emotions and negative emotionality at Session 1 (N=12)

Schemata	+/-	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
Self as Powerless	+					.748 .005	
	-						

Note: No significant correlations at the 0.01 level were found between emotions and schemata other than "Self as Powerless".

Table 14: Spearman correlations (2-tailed) between schemata, basic emotions and negative emotionality at Session 2 (N=9)

Schemata	+/-	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
Self as Powerless	+		-.822 .007				-.822 .007
	-		.866 .003				

Note: No significant correlations at the 0.01 level were found between emotions and schemata other than "Self as Powerless".

Table 15: Spearman correlations (2-tailed) between schemata, basic emotions and negative emotionality at Session 3 (N=11)

Schemata	+/-	Anger	Sadness	Disgust	Fear	Happiness	Negative Emotionality
Self as Worthy	+						
	-	.786 .002	.811 .001	.715 .009			.808 .001

Note: No significant correlations at the 0.01 level were found between emotions and schemata other than "Self as Worthy".

As can be seen from Tables 13 to 15 above, a small number of significant correlations were found between schemata and emotions. As before, there was a risk with performing a large number of correlations that apparently significant results would be found due to chance alone. Again, the use of non-parametric statistics and the more conservative alpha level of 0.01 helped to ameliorate this. As before, the significant correlations found were all in the directions predicted by the hypothesis, with positive Schematic-level Representations associated with less intense negative emotions and greater happiness and vice versa. Again, the pattern of correlations is somewhat inconsistent. The Schematic-level Representation "Self as Powerless" is significantly associated with emotions at Sessions 1 and 2, but not at Session 3, while "Self as Worthy" is significantly associated with emotions at Sessions 2 and 3, but not Session 1. One of the challenges for the SPAARS model if it is to be applied to PTSD would be to account for the significant relationships between emotions and some of the Schematic-level Representations but not others. This issue will be developed in the Discussion. However, it is interesting to note that the Schematic-level Representations for which significant relationships were found with emotions were "Self as Powerless" and "Self as Worthy". These Schematic-level Representations were those identified in the investigation of Hypothesis 1 as being most robustly associated with symptomatology.

It seemed logical as a next step to investigate whether there were significant associations between the derived coupled emotion measures and Schematic-level

Representations, since coupled emotions are seen as a potent source of dysfunction in SPAARS. As an initial exploration of this, Spearman correlations (2-tailed) were calculated between coupled emotion measures and schemata for Session 1. No significant correlations (at the more conservative alpha level of 0.01) were observed. These findings will be considered in the Discussion.

Before moving on to the Discussion, a brief comment on the statistical power of the current study will be made.

Power Analysis

It was not possible to identify a study from the literature that would have enabled a power analysis to be carried out before the current study was conducted. A retrospective power analysis could have been performed. However, it was felt that this was unnecessary due to the significant results that were obtained, which implies there was sufficient power to support a number of the hypotheses.

Discussion

The aim of the current thesis was to investigate whether empirical evidence supported the application of the SPAARS model (Power & Dalgleish, 1997, 1999; Power, 1997, 1999) to PTSD (Dalgleish, 1999, submitted). It was clearly acknowledged at the outset that it would be impossible to provide conclusive evidence within the scope of a small-scale study. This was due partly to the methodological difficulties associated with investigating a complex multi-level model (Teasdale, 1999) and partly due to the number of participants, which placed a limit on the confidence of any statistical findings. However, it was proposed that an accumulation of evidence in favour of a number of the hypotheses would make a stronger case for further investigation into the usefulness of the SPAARS model in understanding PTSD. This Discussion will therefore firstly consider some of the general limitations with the current study as a whole. It will then describe the findings and any additional limitations of the investigations of each of the four hypotheses in turn, before an attempt is made to integrate these findings.

The current study had a number of limitations. The sample was small and a large number of correlation coefficients were calculated. This imposed limits on the confidence that can be placed in the statistical analyses. For example, it was more difficult to balance the risks of Type I versus Type II error. As previously mentioned in the Results section, efforts were made to control for the risk of Type I error, through the general use of non-parametric statistics and the more conservative alpha level of 0.01. While this did increase the confidence that findings were genuinely statistically significant rather than due to chance, it did not eliminate the possibility of Type I errors completely. Also, it could attract the converse criticism of being too conservative and increasing the possibility of Type II errors, with genuinely significant results being rejected. During analysis of the data, a large number of correlations that were significant at the normal alpha level of 0.05, but not at the 0.01 level, were disregarded. This made it difficult to explore the relationships between particular variables in greater detail. For example, while investigating Hypothesis 1, an inconsistent pattern of correlations between Schematic-level Representations and

symptoms across the three sessions was noted. In the current study, it was not possible to rule out the possibility that a more consistent pattern would have been found with a larger sample and a less stringent alpha value. Therefore, for a number of the hypotheses it was difficult to reach any stronger conclusion than that the findings were suggestive and perhaps merit further investigation.

The uncontrolled nature of the current study created further difficulties. It was fundamentally an opportunistic sample, which meant that there might have been unpredictable factors within the sample that prevented it from being representative of the wider population of individuals with PTSD. Despite the opportunistic nature of the sample, efforts were made to represent a range likely to be encountered in clinical practice and, as described in the Results section, there was some evidence to suggest that this was achieved in terms of, for example, gender, index trauma and symptom severity. However, these efforts might have inadvertently introduced an undetected sampling bias. All of these factors must be borne in mind when considering whether the conclusions reached can be generalised.

Questions might also be asked about the reliability and validity of the measures used. Clearly, any such limitations in the measures would have affected the reliability and validity of the findings. While the CAPS, CORE and SCID-CV, and to a lesser extent the IES-R, are validated and standardised instruments, the BES is still being developed. However, the most contentious measure is surely the use of an interview to establish Schematic-level representations. It was decided to use an interview because within the SPAARS model, Schematic-level representations are complex and dynamic entities that cannot be described fully in verbal terms (Power & Dalgleish, 1997; 1999). However, this introduces considerable subjectivity into the assessment of the key Schematic-level representation variables. Attempts were made to reduce subjectivity by standardising the categories into which Schematic-level representations could be classified, as described in the Method, and the inter-rater reliability analysis found fair to moderate agreement with the Schematic-level representations identified. This provided some reassurances regarding subjectivity, however, it must be acknowledged that finding greater agreement in the inter-rater reliability would have increased confidence in the findings. Also, this is only part of

the process of establishing the reliability and validity of any psychological measure. For example, the test-retest reliability of the interview was not established. Therefore, while some change in Schematic-level Representations was observed over the course of the three interviews, it was not clear if this was meaningful. Accordingly, as described in the Results section, it was decided not to investigate this further in the current study.

Another problem with the interview is that the themes used to classify Schematic-level representations were selected pre-hoc. The rationale for selection can be defended on the grounds of previous research, in that they combined a set of general themes associated with a range of psychopathology (Power & Brewin, 1997) with schemata previously found in individuals with PTSD (e.g. Janoff-Bulman, 1989, 1992). However, there is no guarantee that this method would identify every relevant theme. A better method for future research would be to determine relevant themes through interviews with a representative sample of individuals with PTSD and then use this as the basis for classifying Schematic-level representations. This would also enable more precise operational definitions of the themes to be made, which should increase the reliability of this measure.

A further limitation of the current study was that the statistical techniques that could be used for this size of sample limited the conclusions that could be drawn regarding pathways of causality. Therefore, although relationships were found between Schematic-level representations, emotions, and symptoms, it was unclear how these various components interacted. For example, the evidence could be interpreted as suggesting that negative Schematic-level representations may lead to patterns of emotion, which, if sufficiently aversive to an individual, can lead to dysfunction (i.e. symptomatology). However, an alternative interpretation was that aversive emotions might arise from appraisals of symptomatology. Also, it is possible that both pathways between Schematic-level representations, emotions and symptoms have a significant effect in PTSD. Clearly, further research with larger samples and more detailed modelling techniques would be needed to explore these pathways, which could also be expanded to incorporate behaviours.

Also connected to the issue of sample size, it was not possible in the current study to investigate the effects of factors such as co-morbidity or type of trauma, although as stated above, efforts were made to represent these factors in the sample. Separating the effects of some of these factors is arguably less relevant in clinical research. For example, given most individuals with PTSD are likely to experience co-morbidity (e.g. Foa et al., 2000), the clinical utility of a model that excludes co-morbidity is likely to be compromised. However, it is possible that these factors act to confound significant findings, and this could be investigated in larger-scale research.

Finally, a more general methodological issue needs to be considered. SPAARS is a multi-level model of *individual* emotional functioning. Individual differences can be found in any level of the model, and in the particular emotion or combination of emotions that an individual experiences, whether driven by the Schematic or Associative-level. In clinical practice, this enables complex individual variations to be formulated. However, to test whether generally applicable, clinically relevant conclusions can be drawn, it is necessary to look at group differences. This requires summarising some of the individual variability, with an inevitable loss of detail. This may obscure some effects that are consistent with the model. Perhaps future research can attempt to balance this tension by providing more detailed analysis of individual cases, together with more sophisticated analysis of general trends.

Attention will now be turned to the specific hypotheses that were investigated.

The first hypothesis was that Schematic-level Representations, identified by interview, would be significantly associated with symptomatology. Evidence for this would support the usefulness of a schematic level of representation in providing a comprehensive model of PTSD symptomatology. The results provided some support for this hypothesis. Schematic-level Representations relating to "Self as Powerless" and "Self as Worthy" were significantly associated with symptom measures at each of the three sessions. Schematic-level Representations relating to "Self as Futureless" were associated to a number of symptom measures at Session 3 only. However, the pattern of correlations was somewhat inconsistent. For example, CAPS total scores were related to "Self as Powerless" at Session 1 but not at Session

3. Also, none of the other five Schematic-level Representations were significantly associated with symptom measures.

Looking first at the inconsistency in the pattern of correlations, it is possible that this was at least partly due to the conservative statistical analysis performed leading to the rejection of genuinely significant results, as discussed above. Alternatively, this could have been due to the limitations of the interview as a psychological measure, again as discussed above. An instrument of low reliability would be likely to lead to inconsistent results. A greater number of significant correlations were found in the final session and this might reflect the assessment of Schematic-level Representations varying over time as knowledge of the individual and his/her symptomatology increased. This could have lead to a subconscious bias that might have affected the assessment of Schematic-level Representations. This was not directly controlled for in the inter-rater reliability analysis, although the analysis was based on an equal number of first, second and final sessions.

The lack of significant correlations with other Schematic-level Representations might be partly due to some of the limitations with the interview that have just been described. Alternatively, it might be partly due to the inappropriate rejection of genuinely significant results. Another possibility was mentioned earlier, in the discussion of some of the general limitations of this study. This is that the Schematic-level Representations that were assessed were determined pre-hoc. While there was some justification for this, in that the pre-hoc selection was based on existing research and it was felt that there was a need to categorise the Schematic-level Representations in some way in order to increase reliability, it was acknowledged that there was no guarantee that the Schematic-level Representations that were chosen were those most significantly associated with PTSD.

To summarise the evidence for Hypothesis 1, this seems at best suggestive at present. A number of highly significant correlations were found. Two of the Schematic-level Representations, "Self as Powerless" and "Self as Worthy" were associated with symptom measures at each of the three sessions. However, there were a number of methodological concerns related to the findings, which would require further

investigation before it could be confidently claimed that Schematic-level Representations are consistently associated with symptom measures.

The second hypothesis proposed that emotions would be significantly associated with symptom measures. In the SPAARS model (Power, 1997; 1999; Power & Dalgleish, 1997; 1999), it is hypothesised that intense emotions, particularly coupled emotions, are associated with psychopathology. Therefore, finding evidence of these associations would provide evidence for the applicability of the SPAARS model to this sample.

It is suggested that the results generally supported Hypothesis 2. A large number of highly significant correlations were found between symptom measures and the five basic emotions measured by the BES (anger, sadness, disgust, fear and happiness) and with a measure of overall negative emotionality (the mean of the four negative basic emotions). As with Hypothesis 1, there was again some inconsistency in the pattern of correlations, however the overall number of highly significant correlations seems more convincing.

However, as described above, only preliminary psychometric evaluation has been performed for the BES (Power, submitted). This imposes a limit on the confidence that can be placed in the findings. Overall, however, it is suggested that the balance of evidence supported Hypothesis 2.

The third hypothesis proposed that a wider range of intense, aversive emotions would be associated with greater dysfunction, consistent with the SPAARS model (Power, 1997; 1999; Power & Dalgleish, 1997; 1999). To investigate whether this was the case, a measure was derived that was intended to assess coupled negative emotions. A large number of highly significant correlations were found between this derived measure of coupled emotions and a range of symptom measures at Session 1. As with the basic emotions of the BES, there was some inconsistency in the pattern of correlations, however the overall number of highly significant correlations seemed reasonably convincing. However, the derived measure of coupled emotion was devised for this study, as described in the Results section. While it appears a

plausible measure, it has not been validated and therefore these findings must be treated with caution.

To provide further, though indirect support for Hypothesis 3, the data set was inspected, to determine whether fear appeared to be the dominant emotion in participants. It was found that for the majority of participants, fear was not clearly the dominant emotion reported. This provides some support for the utility of a general model of emotional functioning, such as SPAARS, in providing a more comprehensive model of PTSD. However, again the limited psychometric evaluation performed on the BES (Power, submitted) must be borne in mind when considering what confidence can be placed in this finding.

The final hypothesis that was investigated was whether Schematic-level Representations were associated with emotions. Finding evidence of significant associations would provide some evidence for SPAARS, since within the SPAARS model (Power, 1997; 1999; Power & Dalgleish, 1997; 1999) it is proposed that one of the two ways in which emotions are generated is via appraisal processes at the Schematic-level.

The evidence for this hypothesis was limited. Although a few highly significant associations were found with the basic emotions and mean negative emotionality measures from the BES, they were somewhat inconsistent. However, it is interesting that those associations that were found were with the Schematic-level Representations "Self as Powerless" and "Self as Worthy". These were the Schematic-level Representations that were previously found to be most consistently associated with symptomatology. It seems possible therefore that these Schematic-level Representations were particularly significant in this group of participants and might provide a useful starting point for further investigation into Schematic-level Representations in PTSD. However, due to the limitations of the interview in assessing Schematic-level Representations that have been discussed above, it is not possible to determine this with any confidence at present.

No significant associations at all were found between the derived coupled emotion measure described above and the Schematic-level Representations identified at

Session 1. This could be seen as presenting difficulties for the SPAARS model, since coupled emotions are seen as a key cause of psychopathology (Power, 1997; 1999; Power & Dalgleish, 1997; 1999). However, due to the psychometric limitations that have been already described in both the interview and the derived coupled emotion measure, it seems prudent to suggest that at present this finding remains equivocal. Also, even if this finding were confirmed, it would not necessarily rule out the importance of coupled emotions within SPAARS. Appraisal-driven emotions based on Schematic-level Representations would plausibly seem to be highly individual, and coupled emotions perhaps even more so. Therefore, particular Schematic-level Representations would not necessarily be significantly associated with coupled emotions. However, since coupled emotions are hypothesised within SPAARS to be a major cause of psychopathology, then it would be expected to find significant associations between coupled emotions and symptoms. This would be consistent with the findings in this study, although these must be considered tentative at present due to the untested nature of the derived coupled emotion measure.

Considering the findings of the four hypotheses as a whole, it is suggested that sufficient evidence has been presented to justify further investigation of the usefulness of the SPAARS model in understanding PTSD. The strongest evidence appears to come from the analysis of Hypothesis 2, which found quite robust associations between a range of emotions and psychopathology. Investigation of Hypothesis 3 suggested that coupled emotions were significantly associated with PTSD and that participants experienced a wide range of emotion, not simply fear. Although there were a number of methodological issues with the investigation of Hypothesis 3 (described above), on balance this does seem to suggest that a general model of emotional functioning may support an improved understanding of PTSD. The evidence that was found linking Schematic-level Representations to symptomatology and emotions was at best suggestive, due to methodological issues. There was a suggestion that particular Schematic-level Representations may have greater potential significance within PTSD. However, it was clear that the

methodological difficulties of assessing Schematic-level Representations would need to be addressed before significant progress could be made in this area.

Arguably, the most important implication of the current study is the questions it raises about conceptualising PTSD as an anxiety disorder. Analysis of the BES scores showed that fear was infrequently the dominant emotion reported. This suggests that more complex emotional states need to be considered in investigations of PTSD, including the possibility of multiple or coupled emotions. This is consistent with the proposals of Dalgleish et al. (submitted) that dominant emotions other than fear can be associated with a traumatic event, and can produce symptomatology commonly found in PTSD, such as re-experiencing and avoidance, because of the discrepancy between the traumatic experience and pre-trauma mental representations. It is interesting to note also the findings of Shalev and Yehuda (1998) that PTSD was not the most common reaction to traumatic events.

These findings may raise questions regarding the integrity of PTSD as a diagnostic concept. This is an important issue, because constraints on the reliability of the diagnosis must limit the validity of research in this area. It seems plausible that these issues may be related to the high levels of co-morbidity associated with PTSD (e.g. Foa et al., 2000), which have often prevented firm conclusions from being reached about what is discrete PTSD and what may be influenced by another disorder (see e.g. McNally, 2003, for comments on the diagnostic integrity of PTSD). As an integrative model, SPAARS clearly has the potential to guide attempts to separate out the various components of PTSD and co-morbid disorders, and identify the relationships between them.

Tentatively, it is proposed that there might be particular combinations or intensities of negative Schematic-level representations that are associated with poorer outcome. The representations associated with symptoms were "Self as Powerless", "Self as Worthy" and "Self as Futureless". Combinations of these representations seem similar to the concept of hopelessness (e.g. Abramson, Metalsky & Alloy, 1989), which has been associated with certain types of depression. As noted previously, depression is frequently co-morbid with PTSD (e.g. Foa et al., 2000). It seems

plausible that the unpredictable and uncontrollable symptoms of PTSD could lead to hopelessness, particularly if this interacted with congruent pre-trauma Schematic-level representations. It also seems plausible that hopelessness would have an adverse effect on recovery, whether or not it led to full-blown depressive disorder. It is also interesting to consider whether this could explain Ehlers et al's (1998) finding that mental defeat is linked to poorer outcome. While the Schematic-level representations found in the case studies (Appendix 1) are consistent with this hypothesis, it is clearly speculative at present and requires empirical investigation.

Moving on from Schematic-level representations, the findings of the current study suggest the role of multiple emotions in psychological dysfunction, consistent with the SPAARS model. Various combinations of emotions were found to be associated with symptomatology. The theoretical implications of this have been discussed above. Clinically, this suggests that the multiple and complex emotional reactions of an individual to PTSD need careful assessment. Tentatively, it also suggests that treatments that develop skills in emotion management may be beneficial.

The mixed and complex emotions found to be associated with PTSD in this study has some other interesting implications in terms of treatment. For example, in the Introduction, it was noted that a number of authors (e.g. Ehlers et al., 1998) have suggested that individuals who experience emotions other than fear, particularly when re-experiencing, may benefit more from treatment that includes cognitive restructuring, rather than exposure treatment alone. Against this, van Minnen et al. (2002) found no evidence that feelings such as anger, guilt, or shame affected outcome in exposure treatments. The results of the current study may provide a way of integrating these contrasting findings, by suggesting that the complexity of individuals' emotional reactions to re-experiencing are often underestimated. Therefore, for example, the presence of anger in itself may not necessarily lead to poorer outcomes, however, if it is coupled with another emotion of sufficient intensity then this might be detrimental.

However, this raises a more general question about the mechanisms of effect for exposure treatments in PTSD. If the efficacy of exposure is explained in strict learning theory terms as being due to the extinction of conditioned fear responses (e.g. Wolpe, 1958), and the findings of the current sample can be generalised, suggesting that 'pure' fear responses to reminders of traumatic events are relatively rare, how is exposure an effective treatment? In practice, taking such a strict theoretical position, that excluded more cognitive components, for example, fear networks (Lang, 1979) or self-efficacy (Bandura, 1977), would be relatively rare. Also, it could be argued that some fear component would normally be present, so perhaps exposure is effective for fear and has indirect effects on other emotions. However, it seems clear that despite the proven efficacy of exposure as a treatment for PTSD, there are unanswered fundamental questions about its mechanism of effect.

The current study suggests an alternative perspective regarding exposure. An essential component of SPAARS is the notion of two routes to emotion, through the Associative and Schematic levels. Power and Dalgleish (1999) discuss potential implications of the two routes for psychotherapy change processes. For example, they propose that therapy may involve both "fast" change processes at the Schematic level, and "slow" change processes at the Associative level. They suggest that the rapid action of CBT for panic (see, e.g. Clark, 1996) may be due to fast change at the Schematic level, as the individual learns to reinterpret his/her physiological symptoms as being harmless rather than life threatening. Power and Dalgleish additionally propose that the actual physiological symptoms will persist for much longer, because these operate at the Associative-level, subject to slow change processes.

Speculatively, exposure may also lead to fast change processes in Schematic-level representations related to PTSD symptoms. Many individuals with PTSD fear the consequences of exposure to memories of their traumatic events (see e.g. Ehlers & Clark, 2000; Herman, 1992). For example, they may fear that they will go mad or die of a heart attack. This can be seen as a secondary fear appraisal, based on their predicted response. Prolonged exposure should lead to both a reduction in the fear

that is associated with stimuli related to the traumatic event (Associative-level in SPAARS) and to a change in their perception of their ability to cope with these memories (Schematic-level), reducing the secondary fear appraisal. This conceptualisation, that positive changes in beliefs in ability to cope at the Schematic-level are an important part of successful treatment for PTSD, fits neatly with the tentative suggestion above that negative Schematic-level representations consistent with hopelessness may be important in the maintenance of PTSD.

Implosive therapy (i.e. flooding) has been shown to be an effective treatment for symptoms of re-experiencing, anxiety and depression in Vietnam veterans (Keane, Fairbank, Caddell & Zimering, 1989). Although it is easy to imagine negative consequences of this approach, learning that they can cope with their emotions even when flooded with reminders of their traumatic experiences would provide individuals with very powerful experiences of control. This would potentially lead to fast change processes occurring at the Schematic level. Clinically, this leads to an interesting practical and ethical dilemma. The greater an individual's fear of exposure, the more powerful an experience of successfully coping with this is likely to be. However, too much fear may overwhelm the individual, with adverse consequences. As a related point, when is the teaching of emotional management skills as an adjunct to exposure indicated? Note that the teaching of breathing techniques is part of the standard protocol for CBT with exposure treatment in approaches such as Foa and Rothbaum (1998). It is argued that the effects of these adjunctive treatments on the efficacy of the primary exposure treatment may need investigation.

Conclusion

The current study has investigated the utility of the SPAARS model in improving our understanding of PTSD. Taken together, the findings suggest that a case can be made for further investigations into the usefulness of applying SPAARS to PTSD. Quite robust relationships were found between emotions and symptoms and there was a suggestion that Schematic-level Representations may be significantly associated with symptoms and emotions. In summary, SPAARS is a conceptually

strong model that can potentially integrate a wide range of findings relevant to PTSD and other disorders. The current study has provided initial empirical support for a range of components of the SPAARS model. Further research is required, in particular to increase our understanding of the pathways between the various SPAARS levels of representation, however, it is proposed that the current study supports further investigation of the application of the SPAARS model to PTSD.

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Appendix 1: Case Studies

The purpose of presenting the cases is to demonstrate how some of the findings regarding schemata, emotions and symptoms appeared in clinical practice. One case was selected as a "better" and one as a "worse" outcome, determined by change in symptomatology and Schematic-level Representations across the interviews.

Case Study 1 ("worse" outcome group)

James was a 42-year-old ex-serviceman. He described a difficult childhood, with a distant, undemonstrative mother, and an unpredictable father, who could be affectionate or abusive. His father frequently told James he was useless. He described a strong fear of death from an early age.

Things appeared to improve for James when he joined up. He formed strong emotional bonds within the service and felt a sense of belonging to a family that he had never experienced before. His training gave him a sense of competence and achievement that, again, he had never attained before.

James' first traumatic experience occurred 20 years ago. He was assigned to look after a fellow serviceman who was emotionally distressed. James left his friend to get him a beer. When he returned his friend was gone. He was later found dead and it was unclear whether this was a suicide or accidental.

James managed to continue to function after this event by trying not to think about his friend and by sedating himself with alcohol. However, he was experiencing regular nightmares and starting to feel that his "nerve had gone".

Two years later, he was present during a serious accident. Two of his friends died as a result of a fire, one of them in front of him. During the accident, James panicked briefly, although this did not have a significant effect on the outcome. He was convinced at the time that he was going to die.

James stayed in the service for a further 5 years, but he continued to experience nightmares. He also described feeling constantly frightened, which was having a

significant effect on his functioning. He therefore decided to leave the service. Shortly before he left, his leg was injured in an accident and he has been left with a permanent impairment. He was later told that this was a result of incompetent medical treatment by the military.

After leaving the service, James struggled with a succession of jobs. He felt constantly afraid and increasingly incompetent because of his continued failure. He was put on anti-depressants and eventually saw a clinical psychologist, who diagnosed PTSD and started CBT with a focus on his feelings of guilt over the friend James was assigned to look after. James did not finish treatment, which he blamed on the breakdown of his marriage. Due to financial difficulties, James had to give up his house and eventually moved in with his mother. His father had died shortly before this.

When James entered the current study, he had completed CBT with prolonged exposure for his memories of the accident, which he described as helpful in reducing re-experiencing. He was clinically depressed, and the focus of his ongoing treatment was CBT for his depression. He had been in therapy for 5 months when he joined the study.

At Session 1, James was identified as having negative representations on a number of schemata. These included "the Self as Powerless", "the Self as Worthy", "the World as Meaningful" and "the Self as Futureless". He described himself as unable to cope with stress, having an overwhelming feeling of failure, and unable to see any future. He said he lived in constant fear ("World as Benevolent"). He also described a strong feeling of betrayal ("Other as Betraying"), associated with the rejection by the Veteran's Agency of a recent application to have his pension increased. It was felt that James' early experiences had contributed to these Schematic-level representations. His military career gave him feelings of competence that he never had before, which helped him to cope with his childhood experience of being constantly labelled incompetent by his father. His subsequent failure in jobs since leaving the service had reinforced this underlying feeling of incompetence. Similarly, the service gave James a sense of family he had not previously enjoyed.

Unfortunately, his traumatic experiences and leg injury echoed his earlier experience of not being cared for by his real family. His wife's affair and behaviour after the break-up contributed to his sense of betrayal. James also seemed overwhelmed by events and his current problems, and presented with a profound sense of hopelessness.

In terms of symptomatology at Session 1, James was classified as having "extreme" PTSD on the CAPS. He scored above the clinical cut-off on every CORE subscale except Risk. He also scored highly on the IES-R. On the BES, his dominant emotion was Fear, but he also scored highly on Anger, Sadness and (self-) Disgust. His overall negative emotionality score at Session 1 was the second highest in the sample.

James showed very little change in Schematic-level representations over the course of the study, with only 1 less negative representation at Session 3 ("World as Meaningful"). There was no change in his CAPS classification and he again scored above clinical cut-offs on the same CORE subscales. His IES-R scores remained very high. His overall negative emotionality had increased and remained the second highest in the sample for Session 3.

One of the most relevant points for the SPAARS model in this case is the interaction of James' childhood with the traumatic events and his subsequent experiences. These seem to have resulted in powerfully disabling Schematic-level representations, for example regarding his competence and self-worth. Another key point is that, in the same way that the evidence found above suggested links between schemata, emotion and symptoms, links could be seen in the maintenance of James' problems. For example, his traumatic symptoms made him feel fearful, and angry, depressed, and disgusted at himself for being continually afraid and unable to take control of his life. This would then reinforce his beliefs in his own incompetence.

Case Study 2 ("better" outcome group)

David was a 30-year old man. Nearly 4 years before he joined the research study, he was violently assaulted. He described longstanding difficulties in social

relationships. He felt that he had always been shy and reported a history of conflict with his immediate family.

David initially tried to cope with the trauma by trying to ignore it. This proved unsuccessful. He was clinically depressed when he entered therapy, which was 7 months before he joined the study. He received IPT, which focused more on his disturbed social relationships than symptoms of trauma.

At Session 1, David had negative Schematic-level representations relating to his sense of threat, particularly in social situations, and lack of trust of people ("Other as Hostile", "World as Benevolent" and "Other as Betraying"). He reported feeling intense anger at perceived injustices ("World as Meaningful"). However, David also had a positive representation regarding his increasing ability to cope with his symptoms ("Self as Powerless").

David was not clinically depressed when he entered the study. His CAPS classification was "mild" PTSD. He scored below the clinical cut-offs for the CORE subscales and had low scores on the IES-R and DIS-Q. His highest scoring negative emotion on the BES was Fear, but his score for Happiness was higher.

David continued to make progress over the course of the study. He became increasingly positive about his ability to cope with his remaining symptoms ("Self as Powerless", "Self as Worthy"). His sense of anger at injustices faded ("World as Meaningful"). And while he acknowledged that the world was not as safe as he believed before the trauma, he felt that his experience had been valuable and had taught him to be aware of risks ("Self as Powerful", "World as Benevolent"). However, he still felt threatened in social situations and did not trust people ("Other as Hostile", "Other as Betraying").

David was classified as "asymptomatic" on the CAPS at Session 3 and had no significant symptomatology on any of the other measures. His dominant emotion on the BES was Happiness, although he did still report feelings of fear and anger.

David's case is interesting firstly because of his continued positive changes in Schematic-level representations over the course of the study. There seems to be

evidence of the processes of accommodation and assimilation described by a number of authors, including Janoff-Bulman (1992) and Dalgleish (submitted), in the context of SPAARS. Secondly, as in the case of James described above, there was evidence of pre-trauma Schematic-level representations that seem to interact with the traumatic experience to give the event its particular meaning to the individual. Interestingly, despite David's generally excellent recovery from his traumatic experience, there was evidence that these negative Schematic-level representations would persist. This raises the question of what effect similar traumatic experiences might have in future. These issues were expanded upon in the Discussion.

Evidence was also found suggesting that other Schematic-level themes could be associated with broader symptomatology than PTSD. The theme of "Other as Betraying" was associated with the CORE, a general measure of dysfunction. This shows the potential of the SPAARS model to integrate a wider range of symptomatology into a coherent framework. This finding can only be regarded as tentative at present, due to a lack of consistent correlations. However, the main focus of the current study was not to investigate more general psychopathology. Stronger findings might emerge in a study that incorporated additional general measures.

The usefulness of being able to account for broader themes and symptomatology is indicated by the current sample, in which 9 individuals were identified as having negative Schematic-level representations consistent with "Other as Betraying" at Session 1. The level of response to this theme may seem surprisingly high. It might have been anticipated in individuals who had experienced, for example, sexual abuse or the suicide of a partner. However, it was also observed in individuals who felt let down by their treatment by the military following PTSD onset, or who felt that their friends and family had betrayed them. The case studies of James and David (see above) demonstrated some of the clinical implications of Schematic-level representations of "Other as Betraying".

The case studies also showed how pre-trauma Schematic-level representations could interact with traumatic experiences with lasting effect. The theoretical implications of this have already been discussed. It is suggested that in clinical practice it may be

helpful for both therapist and patient to incorporate these interactions into formulations of PTSD. This may help patients to understand why they in particular are experiencing PTSD, when they are often able to identify others who have gone through the same experience and appear unaffected. Speculatively, interactions with pre-trauma Schematic-level representations might also provide an indication of prognosis, although this would require empirical investigation. It is interesting to note contrasting indications from the case studies. David showed few signs of symptomatology at Session 3, however, negative Schematic-level representations were still detected at final interview. Conversely, James had deteriorated on a number of symptom measures. His negative Schematic-level representations were virtually unchanged over the course of the study and it was felt that these were a factor in his poor outcome.

The finding that David had persistent negative Schematic-level representations despite symptomatic relief from PTSD also raises some interesting questions relevant to clinical practice. For example, would the use of more general measures reveal more general psychopathology in individuals who have recovered from PTSD symptoms? Would persistent negative Schematic-level representations be found in many recovered PTSD patients? Does this leave them more vulnerable to future traumatic events? Should psychotherapy focus mainly on the symptoms of PTSD, for example using prolonged exposure, or should it have a broader focus? Unfortunately, it is impossible to answer any of these questions definitively at present. However, speculatively, the high co-morbidity associated with PTSD (e.g. Foa et al., 2000) suggests that individuals who have recovered from PTSD may still have more general psychopathology, which could be associated with negative Schematic-level representations (as found in the case of "Other as Betraying" in the current study). The meta-analyses of vulnerability factors in PTSD (Brewin et al., 2000; Ozer et al., 2003) have identified previous traumatic experiences as being a consistent risk factor, with a small but significant effect size. This suggests that recovered PTSD patients will be more vulnerable to future traumatic events. Arguments have already been presented that this increased vulnerability may be due to pre-trauma Schematic-level representations. It should be noted that pre-trauma in

this context means before the index traumatic event that leads most directly to PTSD, since it seems plausible that these Schematic-level representations may have been affected by the earlier traumatic event. The question of whether psychotherapy for PTSD should have a broader focus is an interesting one. Authors such as Herman (1992) have emphasised the importance of a comprehensive treatment programme for PTSD, which not only addresses symptoms such as avoidance and re-experiencing but also helps the individual to "reconnect" with others and the world. It is suggested that a clear rationale would have to be given to patients for working on issues that may seem unrelated to the trauma (particularly in the case of individuals who may be inhibiting information that would threaten overvalued schemata). A psychoeducation component of treatment, based on the SPAARS model, might provide the basis of this rationale. Alternatively, a relapse prevention approach to supplement normal treatment for PTSD might be indicated. This could potentially reduce future vulnerability without the need to work through negative Schematic-level representations.

Appendix 2: Ethical Approval

Lothian NHS Board

Lothian Research Ethics Committee
Deaconess House
148 Pleasance
Edinburgh
EH8 9RS
Telephone 0131 536 9000
Fax 0131 536 9346
www.nhslothian.scot.nhs.uk

NHS Lothian

Mr Andrew Summers
Rivers Centre
Royal Edinburgh Hospital

Date 30 January 2003
Your Ref
Our Ref LREC/2002/7/51

Enquiries to Annette Harris
Extension 89050
Direct Line 0131 536 9050
Email annette.harris@lhb.scot.nhs.uk
US IRB No.: IRB00001462

Dear Mr Summers,

AN INVESTIGATION INTO HOW INDIVIDUALS' MENTAL REPRESENTATIONS FO TRAUMATIC EVENTS AND THEIR SYMPTOMS VARY DURING THE COURSE OF PSYCHOLOGICAL THERAPY FOR POST-TRAUMATIC STRESS DISORDER.

Thank you for submitting the changes requested in respect of the above research proposal for ethical review. Acting with the Primary Care/Public & Mental Health Research Ethics Committee of the Lothian Research Ethics Committee's delegated authority I can confirm that these changes address the issues raised and that the conditions set by the Committee for a favourable ethical opinion have been met. An official Certificate of Ethical Opinion outlining the conditions of this opinion is enclosed together with a list of members present at the meeting. Please note that the LREC reference number LREC/2002/7/51 **must** be quoted on all correspondence. Correspondence received without the LREC reference number will be returned.

Under the terms of the Scottish Executive Health Department Research Governance Framework for Health and Community Care this opinion has been notified to the Research & Development Office of the relevant NHS Trust(s) where the research is intended to take place. It is the NHS Trust(s) from whom you must obtain management approval before any work on the proposed research can proceed.

Details of the Lothian Research Ethics Committee and its documentation can be found on http://www.nhslothian.scot.nhs.uk/nhs_lothian/about_lothian_health/lrec/index.html

Yours sincerely

ANNETTE HARRIS
Committee Administrator

LOTHIAN RESEARCH ETHICS COMMITTEE

CERTIFICATE OF ETHICAL OPINION

LREC Reference Number: LREC/2002/7/51
Title: An investigation into how individuals' mental representations fo traumatic events and their symptoms vary during the course of psychological therapy for post-traumatic stress disorder.
Researcher: Mr Andrew Summers

The Primary Care/Public & Mental Health Research Ethics Committee of the Lothian Research Ethics Committee (the Committee) reviewed this proposed research and is of the opinion that it is ethical and appropriate to be carried out in the Lothian Area. This opinion encompasses all aspects of the application including the Patient/Subject Information Sheet and all other accompanying documentation provided.

The LREC application form, protocol, subject information sheet, information on compensation arrangements, payments to researchers and the provision of expenses to subjects (where appropriate) were reviewed and approved and the members of the Committee present at the meeting are shown on the attached *Membership List.*

This opinion is issued subject to the following conditions and is invalid if they are not followed:

- You must obtain appropriate management approval from the relevant NHS Trust(s) before starting the proposed research. It is the NHS Trust(s) that ultimately decide whether or not this research should go ahead taking account of the advice of the Local Research Ethics Committee.
- You must notify the Sub-Committee and the relevant NHS Trust(s), in advance, of any significant proposed deviation from the original protocol or application form and obtain approval for any such amendments using the *Amendment Approval Request Form.*
- You must submit reports to the Sub-Committee and the NHS Trust(s) once the study is underway if there are any unusual or unexpected results which raise questions about the safety of the research.
- You must report annually on successes, or difficulties, in recruiting subjects in order to provide useful feedback on perceptions of the study among patients and volunteers using the *Progress Report Form.*
- Where the study is terminated prematurely you must report within fifteen days indicating the reasons for early termination.
- You must submit a final report within three months of the completion of the study using the *Progress Report Form.*

Peter Reith
Secretary
Lothian Research Ethics Committee

30 January 2003

Annette Harris
Administrator
Primary Care/Public & Mental Health
Research Ethics Committee

LOTHIAN RESEARCH ETHICS COMMITTEE

Members of the Primary Care/Public & Mental Health Committee present at the Meeting held on 8 January 2003

Dr A Richardson (Consultant Psychologist) (Chairman)
Dr I McKee (GP Representative)
Ms E Munro (Lay member)
Dr R Seiler (Retired GP Representative)
Mr M Brown (Project Manager, SEHD)
Professor E Johnstone (Consultant Psychiatrist)
Dr D Morrison (Consultant Psychiatrist)
Dr M S Wilson (GP representative)

Appendix 3: Measures

Structured Clinical Interview for DSM-IV Axis I Disorders

Clinician Version

SCID-I

Scoresheet

Michael B. First, M.D.
Robert L. Spitzer, M.D.
Miriam Gibbon, M.S.W.
Janet B. W. Williams, D.S.W.

STRUCTURED CLINICAL INTERVIEW FOR DSM-IV AXIS I DISORDERS

S C I D - I

CLINICIAN VERSION

SCORESHEET

Michael B. First, M.D.
Robert L. Spitzer, M.D.
Miriam Gibbon, M.S.W.
Janet B. W. Williams, D.S.W.

Biometrics Research Department
New York State Psychiatric Institute
Department of Psychiatry
Columbia University
New York, New York

Patient's name: _____

Record number: _____ Date of evaluation: _____

Clinician: _____

Sources of information (check all that apply):

- ❑ Patient
- ❑ Family/friends/associates
- ❑ Health professional
- ❑ Medical records

Manufactured in the United States of America on acid-free paper
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SCID-CV DIAGNOSTIC SUMMARY

MOOD DISORDERS

Current Lifetime

Bipolar I Disorder (*D4*, p. 36)

❒ ❒ 296.40 Bipolar I Disorder, Most Recent Episode Hypomanic

❒ ❒ 296.0x Bipolar I Disorder, Single Manic Episode

❒ ❒ 296.4x Bipolar I Disorder, Most Recent Episode Manic

❒ ❒ 296.6x Bipolar I Disorder, Most Recent Episode Mixed

❒ ❒ 296.5x Bipolar I Disorder, Most Recent Episode Depressed

check fifth-digit specifier:
__ 1—Mild
__ 2—Moderate
__ 3—Severe, Without Psychotic Features
__ 4—Severe, With Psychotic Features
__ 5—In Partial Remission
__ 6—In Full Remission
__ 0—Unspecified

❒ ❒ 296.7 Bipolar I Disorder, Most Recent Episode Unspecified

Other Bipolar Disorders

❒ ❒ 296.89 Bipolar II Disorder (*D9*, p. 37)

check specifier:
___ Hypomanic
___ Depressed

❒ ❒ 301.13 Cyclothymic Disorder (*D12*, p. 37)

❒ ❒ 296.80 Bipolar Disorder Not Otherwise Specified (*D12*, p. 37)

Major Depressive Disorder (*D16*, p. 38)

❒ ❒ 296.2x Major Depressive Disorder, Single Episode

❒ ❒ 296.3x Major Depressive Disorder, Recurrent

check fifth-digit specifier:
__ 1—Mild
__ 2—Moderate
__ 3—Severe, Without Psychotic Features
__ 4—Severe, With Psychotic Features
__ 5—In Partial Remission
__ 6—In Full Remission
__ 0—Unspecified

Other Depressive Disorders

❒ 300.4 Dysthymic Disorder (*A60*, p. 23)

❒ ❒ 311 Depressive Disorder Not Otherwise Specified (*D19*, p. 39)

Current Lifetime

Other Mood Disorders

❒ ❒ 293.83 Mood Disorder Due to General Medical Condition (*A64*, p. 24)
Indicate General Medical Condition: _____
check specifier:
___ Major Depressive–like Episode
___ Other Depressive Symptoms
___ Manic
___ Mixed

❒ ❒ 291.8 Alcohol-Induced Mood Disorder (*A69*, p. 25)
check specifier:
___ Depressed
___ Manic
___ Mixed

❒ ❒ 292.84 Other Substance-Induced Mood Disorder (*A69*, p. 25)
Indicate substance: _____
check specifier:
___ Depressed
___ Manic
___ Mixed

SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS

❒ ❒ Schizophrenia (*C7*, p. 29)
check specifier:
___ 295.30 Paranoid Type (*C8*, p. 30)
___ 295.20 Catatonic Type (*C9*, p. 30)
___ 295.10 Disorganized Type (*C10*, p. 30)
___ 295.90 Undifferentiated Type (*C11*, p. 30)
___ 295.60 Residual Type (*C12*, p. 30)

❒ ❒ 295.40 Schizophreniform Disorder (*C15*, p. 30)

❒ ❒ 295.70 Schizoaffective Disorder (*C20*, p. 31)

❒ ❒ 297.1 Delusional Disorder (*C26*, p. 32)

❒ ❒ 298.8 Brief Psychotic Disorder (*C31*, p. 33)

❒ ❒ 293.81 Psychotic Disorder Due to a General Medical Condition With Delusions (*C34*, p. 34)
Indicate General Medical Condition: _____

❒ ❒ 293.82 Psychotic Disorder Due to a General Medical Condition With Hallucinations (*C34*, p. 34)
Indicate General Medical Condition: _____

❒ ❒ 291.5 Alcohol-Induced Psychotic Disorder With Delusions (*C38*, p. 35)

❒ ❒ 291.3 Alcohol-Induced Psychotic Disorder With Hallucinations (*C38*, p. 35)

❒ ❒ 292.11 Other Substance-Induced Psychotic Disorder With Delusions (*C38*, p. 35)
Indicate substance: _____

❒ ❒ 292.12 Other Substance-Induced Psychotic Disorder With Hallucinations (*C38*, p. 35)
Indicate substance: _____

❒ ❒ 298.9 Psychotic Disorder Not Otherwise Specified (*C39*, p. 35)

SUBSTANCE USE DISORDERS

Current	Lifetime		
		Alcohol Use Disorders	
❒	❒	303.90	Alcohol Dependence (*E15*, p. 42)
❒	❒	305.00	Alcohol Abuse (*E16*, p. 42)
		Other Substance Use Disorders	
❒	❒	304.90	Amphetamine Dependence (*E31*, p. 46)
❒	❒	304.30	Cannabis Dependence (*E31*, p. 46)
❒	❒	304.20	Cocaine Dependence (*E31*, p. 46)
❒	❒	304.50	Hallucinogen Dependence (*E31*, p. 46)
❒	❒	304.60	Inhalant Dependence (*E31*, p. 46)
❒	❒	304.00	Opioid Dependence (*E31*, p. 46)
❒	❒	304.60	Phencyclidine Dependence (*E31*, p. 46)
❒	❒	304.10	Sedative, Hypnotic, or Anxiolytic Dependence (*E31*, p. 46)
❒	❒	304.90	Other (or Unknown) Substance Dependence (*E31*, p. 46)
❒	❒	305.70	Amphetamine Abuse (*E32*, p. 46)
❒	❒	305.20	Cannabis Abuse (*E32*, p. 46)
❒	❒	305.60	Cocaine Abuse (*E32*, p. 46)
❒	❒	305.30	Hallucinogen Abuse (*E32*, p. 46)
❒	❒	305.90	Inhalant Abuse (*E32*, p. 46)
❒	❒	305.50	Opioid Abuse (*E32*, p. 46)
❒	❒	305.90	Phencyclidine Abuse (*E32*, p. 46)
❒	❒	305.40	Sedative, Hypnotic, or Anxiolytic Abuse (*E32*, p. 46)
❒	❒	305.90	Other (or Unknown) Substance Use (*E32*, p. 46)

ANXIETY DISORDERS

❒	❒	300.21	Panic Disorder With Agoraphobia (*F23*, p. 49)
❒	❒	300.01	Panic Disorder Without Agoraphobia (*F24*, p. 49)
❒	❒	300.3	Obsessive-Compulsive Disorder (*F38*, p. 52)
❒	❒	309.81	Posttraumatic Stress Disorder (*F64*, p. 56)
❒	❒	300.0	Anxiety Disorder Not Otherwise Specified (*F71*, p. 57)
❒	❒	293.84	Anxiety Disorder Due to a General Medical Condition (*F86*, p. 60)

Indicate General Medical Condition: _____

check specifier:

___ With Generalized Anxiety
___ With Panic Attacks
___ With Obsessive-Compulsive Symptoms

Current Lifetime

❒ ❒ 291.8 Alcohol-Induced Anxiety Disorder (*F91*, p. 62)
check specifier:
___ With Generalized Anxiety
___ With Panic Attacks
___ With Obsessive-Compulsive Symptoms
___ With Phobic Symptoms

❒ ❒ 292.89 Other Substance-Induced Anxiety Disorder (*F91*, p. 62)
Indicate substance:_____
check specifier:
___ With Generalized Anxiety
___ With Panic Attacks
___ With Obsessive-Compulsive Symptoms
___ With Phobic Symptoms

Other Anxiety Disorders

❒ ❒ 300.22 Agoraphobia Without History of Panic Disorder (*F65*, p. 56)
❒ ❒ 300.23 Social Phobia (*F66*, p. 56)
❒ ❒ 300.29 Specific Phobia (*F67*, p. 56)
❒ ❒ 300.02 Generalized Anxiety Disorder (*F68*, p. 56)

SOMATOFORM DISORDERS

❒ ❒ 300.81 Somatization Disorder (*F72*, p. 58)
❒ ❒ 300.82 Undifferentiated Somatoform Disorder (*F72*, p. 58)
❒ ❒ 300.7 Hypochondriasis (*F73*, p. 58)
❒ ❒ 300.7 Body Dysmorphic Disorder (*F74*, p. 58)

EATING DISORDERS

❒ ❒ 307.1 Anorexia Nervosa (*F75*, p. 58)
❒ ❒ 307.51 Bulimia Nervosa (*F76*, p. 58)

ADJUSTMENT DISORDERS

❒ 309.0 Adjustment Disorder With Depressed Mood (*F82*, p. 59)
❒ 309.24 Adjustment Disorder With Anxiety (*F82*, p. 59)
❒ 309.28 Adjustment Disorder With Mixed Anxiety and Depressed Mood (*F82*, p. 59)
❒ 309.3 Adjustment Disorder With Disturbance of Conduct (*F82*, p. 59)
❒ 309.4 Adjustment Disorder With Mixed Disturbance of Emotions and Conduct (*F82*, p. 59)
❒ 309.9 Unspecified Adjustment Disorder (*F82*, p. 59)

OTHER DSM-IV AXIS I DISORDERS

Current	Lifetime	
❒	❒	Write in code and diagnosis: _____
❒	❒	Write in code and diagnosis: _____
❒	❒	Write in code and diagnosis: _____

DSM-IV AXIS IV: Psychosocial and Environmental Checklist

Check:

❒ Problems with primary support group. *Specify:* _____

❒ Problems related to the social environment. *Specify:* _____

❒ Educational problems. *Specify:* _____

❒ Occupational problems. *Specify:* _____

❒ Housing problems. *Specify:* _____

❒ Economic problems. *Specify:* _____

❒ Problems with access to health care services. *Specify:* _____

❒ Problems related to interaction with the legal system/crime. *Specify:* _____

❒ Other psychosocial and environmental problems. *Specify:* _____

DSM-IV Axis V: Global Assessment of Functioning Scale

Consider psychological, social, and occupational functioning on a hypothetical continuum of mental health–illness. Do not include impairment in functioning as a result of physical (or environmental) limitations.

GAF rating:
current: __ __
highest past year: __ __ __

CODE (**Note:** Use intermediate codes when appropriate, e.g., 45, 68, 72)

100 | 91 **Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.**

90 | 81 **Absent or minimal symptoms** (e.g., mild anxiety before an exam); **good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns** (e.g., an occasional argument with family members).

80 | 71 **If symptoms are present, they are transient and expectable reactions to psychosocial stressors** (e.g., difficulty concentrating after family argument); **no more than slight impairment in social, occupational, or school functioning** (e.g., temporarily falling behind in schoolwork).

70 | 61 **Some mild symptoms** (e.g., depressed mood and mild insomnia) **OR some difficulty in social, occupational, or school functioning** (e.g., occasional truancy, or theft within the household), **but generally functioning pretty well, has some meaningful interpersonal relationships.**

60 | 51 **Moderate symptoms** (e.g., flat affect and circumstantial speech, occasional panic attacks) **OR moderate difficulty in social, occupational, or school functioning** (e.g., few friends, conflicts with peers or co-workers).

50 | 41 **Serious symptoms** (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) **OR any serious impairment in social, occupational, or school functioning** (e.g., no friends, unable to keep a job).

40 | 31 **Some impairment in reality testing or communication** (e.g., speech is at times illogical, obscure, or irrelevant) **OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood** (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school).

30 | 21 **Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgment** (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) **OR inability to function in almost all areas** (e.g., stays in bed all day; no job, home, or friends).

20 | 11 **Some danger of hurting self or others** (e.g., suicide attempts without clear expectation of death, frequently violent, manic excitement) **OR occasionally fails to maintain minimal personal hygiene** (e.g., smears feces) **OR gross impairment in communication** (e.g., largely incoherent or mute).

10 | 1 **Persistent danger of severely hurting self or others** (e.g., recurrent violence) **OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.**

0 Inadequate information.

OVERVIEW

DEMOGRAPHIC DATA

What's your date of birth?	*Date of Birth:* ___ ___ ___ month day year	P1
Are you married? IF NO: Were you ever?	*Marital Status:* 1—Married or living with someone as if married 2—Widowed 3—Divorced or annulled 3—Separated 4—Never married	P2
Any children? IF YES: How many?		P3
Where do you live? Whom do you live with?		P4

EDUCATIONAL HISTORY

How far did you get in school? IF FAILED TO COMPLETE A PROGRAM IN WHICH HE/SHE WAS ENROLLED: Why didn't you finish?	*Education:* 1—Grade 6 or less 2—Grade 7 to 12 (without graduating high school) 3—Graduated high school or high school equivalent 4—Part college 5—Graduated 2-year college/technical school 6—Graduated 4-year college 7—Part graduate/professional school 8—Completed graduate/professional school	P5

OCCUPATIONAL HISTORY

What kind of work do you do? Are you working now? IF YES: How long have you worked there? IF LESS THAN 6 MONTHS: Why did you leave your last job? Have you always done that kind of work? IF NO: Why is that? What kind of work have you done before? How are you supporting yourself now?		P6
IF UNKNOWN: Has there ever been a period of time when you were unable to work or go to school? IF YES: When? Why was that?		P7

STATUS OF CURRENT TREATMENT

IF UNKNOWN: Have you been in any kind of treatment in the past month?	*Treatment Setting:* (Circle one) 1—Current inpatient (including residential treatment) 2—Current outpatient 3—Other (e.g., 12-step program such as AA) 4—No current treatment	P8
IF INPATIENT: When did you come into the hospital? IF OUTPATIENT: When did you start coming to the (clinic/office/program)?	*Date:*	P9

CHIEF COMPLAINT AND DESCRIPTION OF PROBLEM

What led to your coming here (this time)? (What is the major problem you are having trouble with?) IF DOES NOT GIVE DETAILS OF PRESENTING PROBLEM: Tell me more about that. (What do you mean by. . . ?)		P10

ONSET OF PRESENT ILLNESS OR EXACERBATION

When did this begin? (When did you first notice that something was wrong?) When were you last feeling OK (your usual self)?		P11

NEW SYMPTOMS OR RECURRENCE

Is this something new or a return of something you had before? (What made you come for help now?)		P12

ENVIRONMENTAL CONTEXT AND POSSIBLE PRECIPITANTS (USE FOR REPORTING AXIS IV)

Did anything happen or change just before this all started? (Do you think this had anything to do with your [PRESENT ILLNESS]?) What other kinds of problems were you having when this began?		P13

COURSE OF PRESENT ILLNESS OR EXACERBATION

After it started, what happened next? (Did other things start to bother you?)		P14
Since this began, when have you felt the worst? IF MORE THAN A YEAR AGO: In the last year, when have you felt the worst?		P15

TREATMENT HISTORY

When was the first time you saw someone for emotional or psychiatric problems? (What was that for? What treatment(s) did you get? What medications?) What about treatment for drugs or alcohol? (THE LIFE CHART ON PAGE 12 OF THE SCORESHEET MAY BE USED TO DOCUMENT A COMPLICATED HISTORY OF PSYCHOPATHOLOGY AND TREATMENT)		P16
Have you ever been a patient in a psychiatric hospital? IF YES: What was that for? (How many times?) IF GIVES AN INADEQUATE ANSWER, CHALLENGE GENTLY: e.g., Wasn't there something else? People don't usually go to psychiatric hospitals just because they are [TIRED/NERVOUS/OWN WORDS].		P17
Have you ever been a patient in a hospital for treatment of a medical problem? IF YES: What was that for?		P18

OTHER CURRENT PROBLEMS

Have you had any other problems in the past month?		P19
What has your mood been like?		P20
How has you physical health been? (Have you had any medical problems?) (USE THIS INFORMATION TO REPORT AXIS III)		P21
Do you take any medications or vitamins (other than those you have already told me about)? IF YES: How much and how often do you take [MEDICATION]? (Has there been any change in the amount you have been taking?)		P22
How much have you been drinking [alcohol] [in the past month]? Have you been taking any drugs [in the past month]? (What about marijuana, cocaine, other street drugs?)		P23

CURRENT SOCIAL FUNCTIONING (USE FOR REPORTING AXIS V)

How have you been spending your free time? Whom do you spend time with?		P24

OVERVIEW DIAGNOSES

MOST LIKELY CURRENT DIAGNOSIS: _____ P25

DIAGNOSES THAT NEED TO BE RULED OUT: P26

_____

_____

_____

LIFE CHART

Age (or date)	Description (symptoms, triggering events)	Treatment

A. MOOD EPISODES

MAJOR DEPRESSIVE EPISODE CRITERIA

onset of episode: ____

check if: current ____
past ____
if past, offset: ____

A. Five (or more) . . . during the same 2 weeks . . . at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.

A1 (1) depressed mood — ? — +
Notes:

A2 (2) markedly diminished interest or pleasure — ? — +
Notes:
A16 p. 15

A3 (3) weight loss/gain; decreased/increased appetite — ? — +
Notes:

A4 (4) insomnia or hypersomnia — ? — +
Notes:

A5 (5) psychomotor agitation or retardation — ? — +
Notes:

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A6	(6) fatigue or loss of energy *Notes:*	? – +	A6
A7	(7) feelings of worthlessness or excessive or inappropriate guilt *Notes:*	? – +	A7
A8	(8) diminished ability to think or indecisiveness *Notes:*	? – +	A8
A9	(9) thoughts of death, suicidal ideation, attempt, or plan *Notes:*	? – +	A9
A10	**AT LEAST FIVE OF A(1)–A(9) ARE "+" AND AT LEAST ONE OF THESE IS A(1) OR A(2)**	? – + → A16 p. 15	A10
A11	C. Clinically significant impairment or distress *Notes:*	? – + → A16 p. 15	A11
A12	D. Not due to a substance or a general medical condition (check p. 24) *WARNING: A "YES" answer to the interview question equals a "–" rating* *Notes:*	? – + → A16 p. 15	A12

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A13 E. Not better accounted for by Bereavement
WARNING: A "YES" answer to the interview question equals a "–" rating

? – +

A16 p. 15

A13

A14 **CRITERIA A, C, D, AND E ARE "+"**

Check here ___ if criteria have been met in the past month.

+

Major Depressive Episode

A14

A15 Total number of Major Depressive Episodes ___

A15

MANIC EPISODE CRITERIA

onset of episode: ___

check if: current ___
past ___
if past, offset: ___

A16 A. Abnormally and persistently elevated, expansive, or irritable mood . . .
Notes:

? – +

A45 p. 21

A16

A17 . . . lasting at least 1 week (or any duration if hospitalization is necessary)
Notes:

? – +

A30 p. 18

A17

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:

A18 (1) inflated self-esteem or grandiosity
Notes:

? – +

A18

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A19	(2) decreased need for sleep *Notes:*	? — +	A19
A20	(3) more talkative than usual or pressured speech *Notes:*	? — +	A20
A21	(4) flight of ideas or racing thoughts *Notes:*	? — +	A21
A22	(5) distractibility *Notes:*	? — +	A22
A23	(6) increase in goal-directed activity or psychomotor agitation *Notes:*	? — +	A23
A24	(7) excessive involvement in pleasurable activities *Notes:*	? — +	A24
A25	**AT LEAST THREE OF B(1)–B(7) ARE "+" (OR FOUR IF MOOD IS IRRITABLE AND NOT ELEVATED)**	? — + A45 p. 21	A25

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A26	D. Sufficiently severe to cause marked impairment *Notes:*	? — + A39 p. 19	A26
A27	E. Not due to a substance or a general medical condition (check p. 24) *WARNING: A "YES" answer to the interview question equals a "–" rating* *Notes:*	? — + A45 p. 21	A27
A28	**CRITERIA A, C, D, AND E ARE "+"** Check here ___ if criteria have been met in the past month.	+ ↓ **Manic Episode**	A28
A29	Total number of Manic Episodes	__ B1 p. 26	A29

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

HYPOMANIC EPISODE CRITERIA

onset of episode: ____

check if: current ____
past ____
if past, offset: ____

A30 A. Persistently elevated, expansive, or irritable mood, lasting throughout at least 4 days — ? — + **A30**
Notes:
A45 p. 21

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree:

A31 (1) inflated self-esteem or grandiosity — ? — + **A31**
Notes:

A32 (2) decreased need for sleep — ? — + **A32**
Notes:

A33 (3) more talkative than usual or pressured speech — ? — + **A33**
Notes:

A34 (4) flight of ideas or racing thoughts — ? — + **A34**
Notes:

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A35	(5) distractibility *Notes:*	? — +	A35
A36	(6) increase in goal-directed activity or psychomotor agitation *Notes:*	? — +	A36
A37	(7) excessive involvement in pleasurable activities *Notes:*	? — +	A37
A38	**AT LEAST THREE OF B(1)–B(7) ARE "+" (OR FOUR IF MOOD IS IRRITABLE AND NOT ELEVATED)**	? — + → **A45** p. 21	A38
A39	C. Unequivocal change in functioning that is uncharacteristic *Notes:*	? — + → **A45** p. 21	A39
A40	D. Change observable by others *Notes:*	? — + → **A45** p. 21	A40
A41	E. Not severe enough to cause marked impairment, or to necessitate hospitalization, and no psychotic features *WARNING: A "YES" answer to the interview question equals a "–" rating* *Notes:*	? — + → **A26** p. 17	A41

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A42 F. Not due to a substance or a general medical condition (check p. 24)
WARNING: A "YES" answer to the interview question equals a "–" rating
Notes:

? – + **A42**

A45 p. 21

A43 **CRITERIA A, B, C, D, E, AND F ARE "+"**
Check here ___ if criteria have been met in the past month.

A43

\+

Hypomanic Episode

A44 Total number of Hypomanic Episodes ___ **A44**

B1 p. 26

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

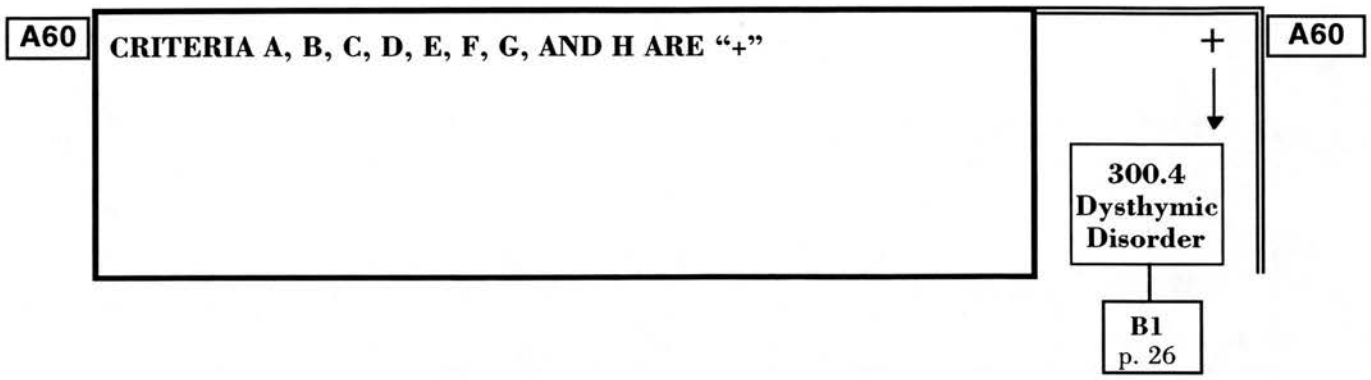
DYSTHYMIC DISORDER CRITERIA

A45	A. Depressed mood for most of the day, for more days than not for at least 2 years *Notes:*	? – + → B1 p. 26	A45
	B. Presence of two (or more) of the following:		
A46	(1) poor appetite or overeating *Notes:*	? – +	A46
A47	(2) insomnia or hypersomnia *Notes:*	? – +	A47
A48	(3) low energy or fatigue *Notes:*	? – +	A48
A49	(4) low self-esteem *Notes:*	? – +	A49
A50	(5) poor concentration or difficulty making decisions *Notes:*	? – +	A50

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

A51	(6) feelings of hopelessness *Notes:*	? – +	A51
A52	**AT LEAST TWO "B" SYMPTOMS ARE "+"**	? – + → B1 p. 26	A52
A53	C. Never without the symptoms in A and B for more than 2 months at a time	? – + → B1 p. 26	A53
A54	Age at onset of current Dysthymic Disorder	___ ___	A54
A55	D. No Major Depressive Episode during the first 2 years of the disturbance	? – + → B1 p. 26	A55
A56	E. Has never had a Manic, Mixed, or Hypomanic Episode	? – + → B1 p. 26	A56
A57	F. Does not occur exclusively during the course of a chronic psychotic disorder	? – + → B1 p. 26	A57
A58	G. Not due to a substance or a general medical condition (check p. 24) *WARNING: A "YES" answer to the interview question equals a "–" rating* *Notes:*	? – + → B1 p. 26	A58
A59	H. Clinically significant distress or impairment *Notes:*	? – + → B1 p. 26	A59

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present


A60
CRITERIA A, B, C, D, E, F, G, AND H ARE "+"
+
A60
300.4
Dysthymic
Disorder
B1
p. 26

MOOD DISORDER DUE TO A GENERAL MEDICAL CONDITION CRITERIA

A65 p. 25

A61 A. A prominent and persistent disturbance in mood
Notes:

? – + **A61**

A62 B/C. Disturbance is the direct physiological consequence of a general medical condition, and the disturbance is not better accounted for by another mental disorder
Notes:

? – + **A62**

A65 p. 25

A63 E. Clinically significant distress or impairment
Notes:

? – + **A63**

A64 **CRITERIA A, B/C, AND E ARE "+"**

Specify etiological general medical condition: _____

_____

Indicate type of mood symptoms:
___ Major Depressive–like Episode
___ Other Depressive Symptoms
___ Manic
___ Mixed

Check here ___ if criteria have been met in the past month.

– + **A64**

293.83 Mood Disorder Due to a General Medical Condition

A12, p. 14
A27, p. 17
A42, p. 20
A58, p. 22
D11, p. 37
D18, p. 39

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

SUBSTANCE-INDUCED MOOD DISORDER CRITERIA

A65 A. A prominent and persistent disturbance in mood
Notes:
? — + **A65**

A66 B. Either: (1) the symptoms in A developed during or within a month of Substance Intoxication or Withdrawal or (2) medication use is etiologically related to the disturbance
Notes:
? — + **A66**
A12, p. 14
A27, p. 17
A42, p. 20
A58, p. 22
D11, p. 37
D18, p. 39

A67 C. The disturbance is not better accounted for by a Mood Disorder that is not substance-induced
Notes:
? — + **A67**
A12, p. 14
A27, p. 17
A42, p. 20
A58, p. 22
D11, p. 37
D18, p. 39

A68 E. Clinically significant distress or impairment
Notes:
? — + **A68**

A69 **CRITERIA A, B, C, AND E ARE "+"**

Code 291.8 for Alcohol, 292.84 for all other substances.
Specify substance: _____

Indicate type of mood symptoms:
___ Depressed
___ Manic
___ Mixed

Check here ___ if criteria have been met in the past month.

— + **A69**
↓
291.8/292.84 Substance-Induced Mood Disorder

A12, p. 14
A27, p. 17
A42, p. 20
A58, p. 22
D11, p. 37
D18, p. 39

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

B. PSYCHOTIC AND ASSOCIATED SYMPTOMS

B1	Delusion of reference *Describe:*	? – +	B1
B2	Persecutory delusion *Describe:*	? – +	B2
B3	Grandiose delusion *Describe:*	? – +	B3
B4	Somatic delusion *Describe:*	? – +	B4
B5	Other delusions *Describe:*	? – +	B5
B6	Auditory hallucinations *Describe:*	? – +	B6
B7	Visual hallucinations *Describe:*	? – +	B7

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

B8	Tactile hallucinations *Describe:*	? — +	B8
B9	Other hallucinations *Describe:*	? — +	B9
B10	Catatonic behaviors *Describe:*	? — +	B10
B11	Grossly disorganized behavior *Describe:*	? — +	B11
B12	Grossly inappropriate affect *Describe:*	? — +	B12
B13	Disorganized speech *Describe:*	? — +	B13
B14	Negative symptoms *Describe:*	? — +	B14

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

B15

CHRONOLOGY OF PSYCHOTIC SYMPTOMS

B15

If any delusions or hallucinations, note type, course, onset and offset dates, and whether present during past month (e.g., "bizarre delusions of being controlled by aliens, present intermittently, onset 1969, offset June 1993").

Type of symptom	Course	Onset	Offset	Check if present during past month

C. DIFFERENTIAL DIAGNOSIS OF PSYCHOTIC DISORDERS

D1 p. 36

C1	Psychotic symptoms occur at times other than during mood episodes	no → D1 p. 36 / yes	C1

SCHIZOPHRENIA CRITERIA

C2	A. One month of active-phase symptoms	no → C21 p. 32 / yes	C2
C3	D. Schizoaffective Disorder and Mood Disorder With Psychotic Features have been ruled out	no → C16 p. 31 / yes	C3
C4	C. Duration of 6 months	no → C13 p. 30 / yes	C4
C5	B. Functioning markedly impaired	no → C39 p. 35 / yes	C5
C6	E. Not due to a substance or a general medical condition (check p. 34)	no → D1 p. 36 / yes	C6
C7	**CRITERIA A, B, C, D, AND E ARE MET** Check here ___ if criteria have been met in the past month	yes → **Schizophrenia**	C7

C8	295.30 Schizophrenia, Paranoid Type	no / yes → D1 p. 36	C8
C9	295.20 Schizophrenia, Catatonic Type	no / yes → D1 p. 36	C9
C10	295.10 Schizophrenia, Disorganized Type	no / yes → D1 p. 36	C10
C11	295.90 Schizophrenia, Undifferentiated Type	no / yes → D1 p. 36	C11
C12	295.60 Schizophrenia, Residual Type	no / yes → D1 p. 36	C12

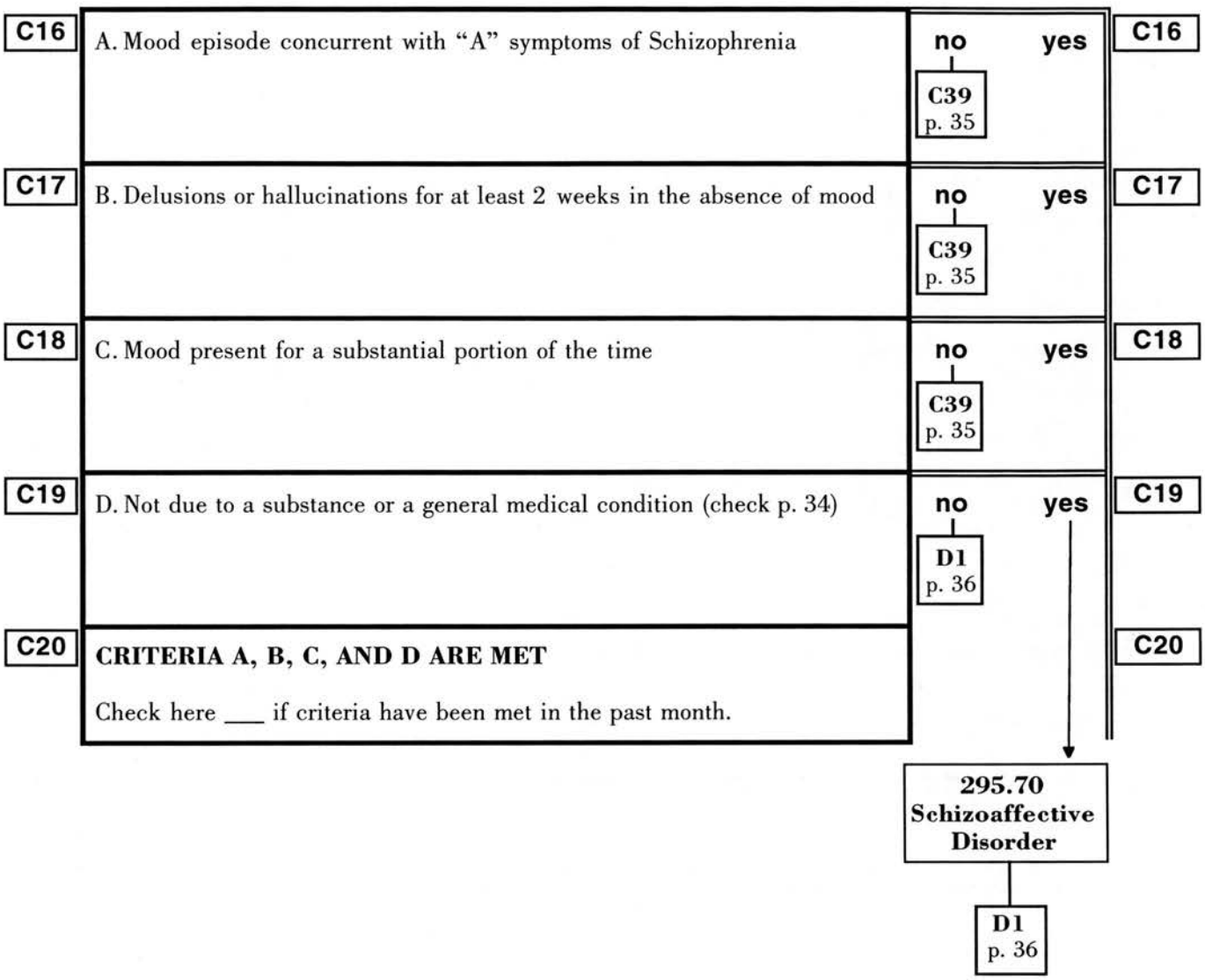
SCHIZOPHRENIFORM DISORDER CRITERIA

C13	B. Lasted at least 1 month but less than 6 months	no → C27 p. 33 / yes	C13
C14	A. Not due to a substance or a general medical condition (check p. 34)	no → D1 p. 36 / yes	C14
C15	**CRITERIA B AND C ARE MET** Check here ___ if criteria have been met in the past month.		C15

295.40 Schizophreniform Disorder

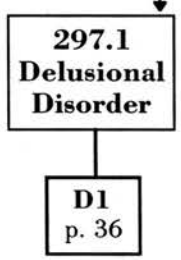
→ D1 p. 36

SCHIZOAFFECTIVE DISORDER CRITERIA



DELUSIONAL DISORDER CRITERIA

C21	A. Nonbizarre delusions	no → C27 p. 33 / yes	C21
C22	B. Never met criterion A for Schizophrenia	no → C39 p. 35 / yes	C22
C23	C. Functioning not odd or bizarre	no → C39 p. 35 / yes	C23
C24	D. Mood episodes brief relative to delusions	no → C39 p. 35 / yes	C24
C25	E. Not due to a substance or a general medical condition (check p. 34)	no → D1 p. 36 / yes	C25
C26	**CRITERIA A, B, C, D, AND E ARE MET** Check here ___ if criteria have been met in the past month.		C26



BRIEF PSYCHOTIC DISORDER CRITERIA

C27	A. One or more psychotic symptoms	no → C39 p. 35 / yes	C27
C28	B. Duration at least 1 day but less than 1 month	no → C39 p. 35 / yes	C28
C29	C(1). Not better accounted for by Mood Disorder, Schizoaffective Disorder, or Schizophrenia	no → C39 p. 35 / yes	C29
C30	C(2). Not due to a substance or a general medical condition (check p. 34)	no → D1 p. 36 / yes	C30
C31	**CRITERIA A, B, AND C ARE MET** Check here ___ if criteria have been met in the past month.		C31

298.8 Brief Psychotic Disorder

→ D1 p. 36

PSYCHOTIC DISORDER DUE TO A GENERAL MEDICAL CONDITION CRITERIA

C35 p. 35

C32 A. Prominent hallucinations or delusions
Notes:

? — + **C32**

C33 B/C. The disturbance is the direct physiological consequence of a general medical condition, and the disturbance is not better accounted for by another mental disorder.
Notes:

? — + **C33**

C35 p. 35

C34 **CRITERIA A AND B/C ARE MET**

Code 293.81 if predominantly with delusions
Code 293.82 if predominantly with hallucinations

Specify general medical condition: _____

Check here ___ if criteria have been met in the past month.

— + **C34**

Psychotic Disorder Due to General Medical Condition

C6, p. 29
C14, p. 30
C19, p. 31
C25, p. 32
C30, p. 33

SUBSTANCE-INDUCED PSYCHOTIC DISORDER CRITERIA

C35 A. Prominent hallucinations or delusions
Notes:

? — + **C35**

C36 B. Either: (1) the symptoms in A developed during or within a month of substance intoxication or withdrawal or (2) medication use is etiologically related to the disturbance
Notes:

? — + **C36**

— **C6**, p. 29; **C14**, p. 30; **C19**, p. 31; **C25**, p. 32; **C30**, p. 33

C37 C. The disturbance is not better accounted for by a Psychotic Disorder that is not substance induced
Notes:

? — + **C37**

— **C6**, p. 29; **C14**, p. 30; **C19**, p. 31; **C25**, p. 32; **C30**, p. 33

C38 **CRITERIA A, B, AND C ARE MET**

Code:
291.5 ***Alcohol*-Induced Psychotic Disorder With *Delusions***
291.3 ***Alcohol*-Induced Psychotic Disorder With *Hallucinations***
292.11 ***Other Substance*–Induced Psychotic Disorder With *Delusions***
292.12 ***Other Substance*–Induced Psychotic Disorder With *Hallucinations***

Check here ___ if criteria have been met in the past month.

— + **C38**

291.5/291.3/292.11/292.12 Substance-Induced Psychotic Disorder

C6, p. 29; **C14**, p. 30; **C19**, p. 31; **C25**, p. 32; **C30**, p. 33

C39 **298.9 Psychotic Disorder Not Otherwise Specified**

Check here ___ if diagnosis has been present in the past month.

+ **C39**

D1 p. 36

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

D. MOOD DISORDERS

BIPOLAR I DISORDER CRITERIA

E1 p. 40

D1	History of one or more Manic or Mixed Episodes (see **A28,** p. 17)	no → D5 p. 37 / yes	D1
D2	At least one Manic or Mixed Episode is not due to a general medical condition or substance use.	no → D5 p. 37 / yes	D2
D3	At least one Manic or Mixed Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.	no → D5 p. 37 / yes	D3
D4	BIPOLAR I DISORDER: Select first four digits of diagnostic code based on current (or most recent) episode (fifth digit indicates severity). Check here ___ if criteria have been met in the past month. Check one: ___ **296.40 Most Recent Episode Hypomanic** ___ **296.0x Single Manic Episode** ___ **296.4x Most Recent Episode Manic** ___ **296.6x Most Recent Episode Mixed** ___ **296.5x Most Recent Episode Depressed** Check fifth digit: __ 1—Mild __ 2—Moderate __ 3—Severe, Without Psychotic Features __ 4—Severe, With Psychotic Features __ 5—In Partial Remission __ 6—In Full Remission __ 0—Unspecified ___ **296.7 Most Recent Episode Unspecified**	E1 p. 40	D4

BIPOLAR II DISORDER CRITERIA

D5	At least one Hypomanic Episode not due to a general medical condition or substance use (see **A43,** p. 20)	no → **D10** below; yes	D5
D6	At least one Major Depressive Episode not due to a general medical condition or substance use (see **A14,** p. 15)	no → **D10** below; yes	D6
D7	Never any Manic or Mixed Episodes	no → **D10** below; yes	D7
D8	Not better accounted for by Schizoaffective Disorder and not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified	no → **D10** below; yes	D8
D9	Check one based on current (or most recent) episode: __ **296.89 Bipolar II Disorder, Hypomanic** __ **296.89 Bipolar II Disorder, Depressed** Check here ___ if criteria have been met in the past month.	→ **E1** p. 40	D9

OTHER BIPOLAR DISORDERS

D10	Clinically significant manic or hypomanic symptoms	no → **D13** p. 38; yes	D10
D11	Not due to a substance or a general medical condition (check p. 24)	no → **D13** p. 38; yes	D11
D12	Indicate type: __ **301.13 Cyclothymic Disorder** __ **296.80 Bipolar Disorder Not Otherwise Specified** Check here ___ if present in past month.	→ **E1** p. 40	D12

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

MAJOR DEPRESSIVE DISORDER CRITERIA

D13	At least one Major Depressive Episode that is not due to a general medical condition or substance use (see **A14**, p. 15)	no → **D17** p. 39 / yes	D13
D14	Not better accounted for by Schizoaffective Disorder and not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified	no → **D17** p. 39 / yes	D14
D15	Never any Manic, Mixed, or Hypomanic Episodes	no → **D17** p. 39 / yes	D15
D16	**MAJOR DEPRESSIVE DISORDER** Select first four digits based on number of episodes (fifth digit indicates severity) Check here ___ if criteria have been met in the past month. Check one: ___ **296.2x Major Depressive Disorder, Single Episode** ___ **296.3x Major Depressive Disorder, Recurrent** Check fifth digit: __ 1—Mild __ 2—Moderate __ 3—Severe, Without Psychotic Features __ 4—Severe, With Psychotic Features __ 5—In Partial Remission __ 6—In Full Remission __ 0—Unspecified	**E1** p. 40	D16

DEPRESSIVE DISORDER NOT OTHERWISE SPECIFIED

D17	Clinically significant depressive symptoms	no → E1 p. 40 / yes	D17
D18	Not due to a substance or a general medical condition (check p. 24)	no → E1 p. 40 / yes	D18
D19	**311 Depressive Disorder Not Otherwise Specified** Check here ___ if present in the past month.	E1 p. 40	D19

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

E. ALCOHOL AND OTHER SUBSTANCE USE DISORDERS

E7 p. 41

E1	Had a period of excessive drinking OR had evidence of alcohol-related problems	? – + E17 p. 43	E1

ALCOHOL ABUSE CRITERIA

	A. A maladaptive pattern of alcohol use leading to clinically significant impairment or distress, as manifested by one (or more) of the following occurring within a 12-month period:		
E2	(1) failure to fulfill major role obligations at work, school, or home *Notes:*	? – +	E2
E3	(2) use in situations in which it is physically hazardous *Notes:*	? – +	E3
E4	(3) recurrent alcohol-related legal problems *Notes:*	? – +	E4
E5	(4) continued alcohol use despite having problems caused or exacerbated by the effects of alcohol *Notes:*	? – +	E5
E6	**AT LEAST ONE ABUSE ITEM IS "+"**	? – + E17 p. 43	E6

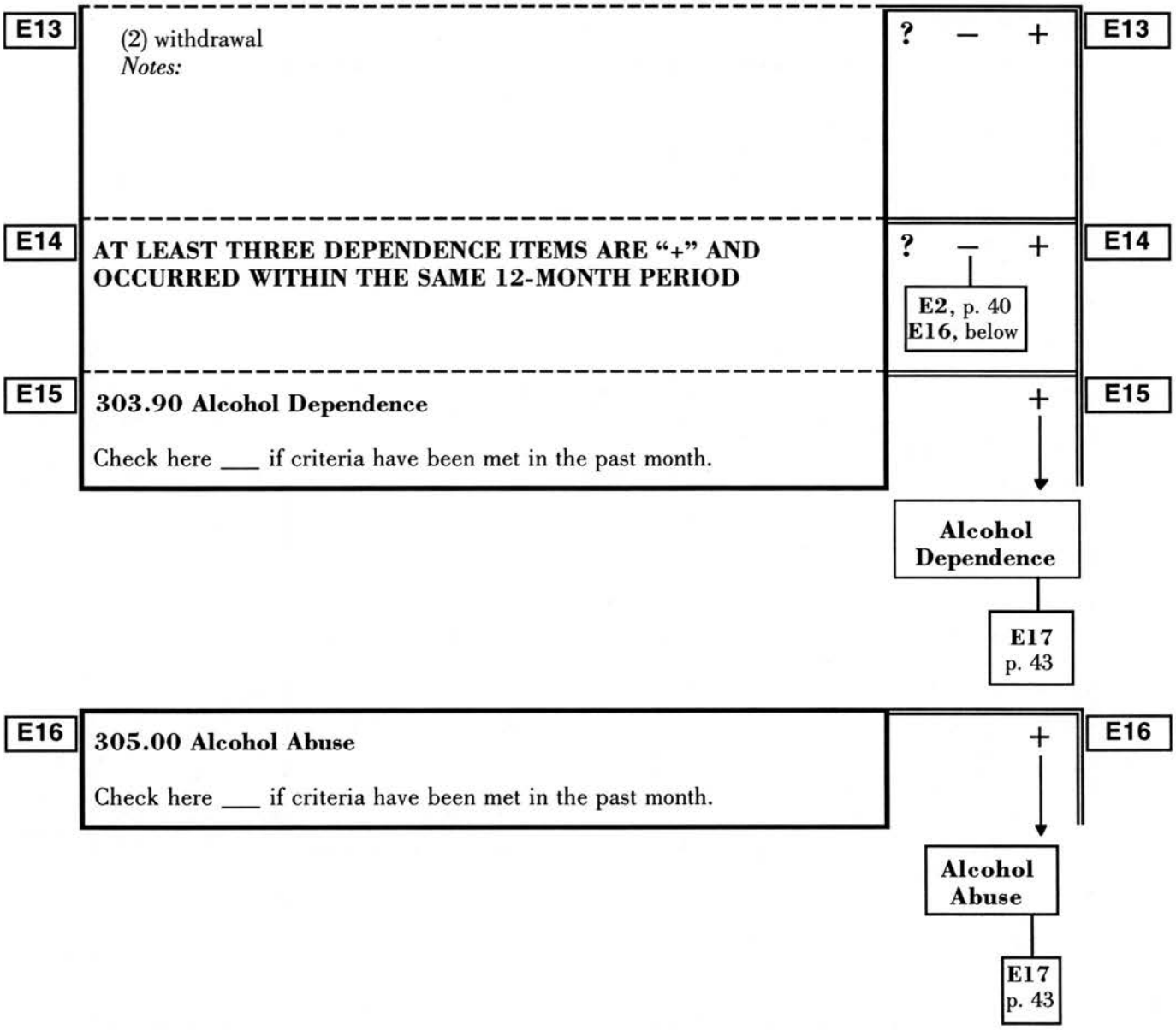
Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

ALCOHOL DEPENDENCE CRITERIA

A maladaptive pattern of alcohol use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following occurring at any time in the same 12-month period:

E7	(3) often taken in larger amounts OR over a longer period than was intended *Notes:*	? — +	E7
E8	(4) there is a persistent desire OR unsuccessful effort to cut down or control alcohol use *Notes:*	? — +	E8
E9	(5) a great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects *Notes:*	? — +	E9
E10	(6) important social, occupational, or recreational activities are given up or reduced because of use *Notes:*	? — +	E10
E11	(7) continued use despite knowledge of having a persistent or recurrent physical or psychological problem *Notes:*	? — +	E11
E12	(1) tolerance *Notes:*	? — +	E12

Ratings: ? = Inadequate information; – = Absent (or subthreshold; + = Present



Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

NONALCOHOL SUBSTANCE USE DISORDERS

E17 CIRCLE THE NAME OF EACH DRUG EVER USED (OR WRITE IN NAME IF "OTHER").

RECORD PERIOD OF HEAVIEST USE (AGE OR DATE, AND DURATION) AND DESCRIBE PATTERN OF USE. **E17**

Sedatives-hypnotics-anxiolytics: Quaalude, Seconal, Valium, Xanax, Librium, barbiturates, Miltown, Ativan, Dalmane, Halcion, Restoril, or other: _____	
Cannabis: marijuana, hashish, THC, or other: _____	
Stimulants: amphetamine, "speed," crystal meth, dexadrine, Ritalin, "ice," or other: _____	
Opioids: heroin, morphine, opium, Methadone, Darvon, codeine, Percodan, Demerol, Dilaudid, unspecified or other: _____	
Cocaine: intranasal, IV, freebase, crack, "speedball," unspecified or other: _____	
Hallucinogens/PCP: LSD, mescaline, peyote, psilocybin, STP, mushrooms, PCP ("angel dust"), Special K (ketamine), Extasy, MDMA, or other: _____	
Other: steroids, "glue," paint, inhalants, nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers"), nonprescription sleep or diet pills, unknown, or other: _____	

DRUG CLASS USED MOST/MOST PROBLEMS: _____

E23 p. 45

if "NONE" **F1**, p. 47

NONALCOHOL SUBSTANCE ABUSE CRITERIA

A. A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by one (or more) of the following occurring within a 12-month period:

E18	(1) failure to fulfill major role obligations at work, school, or home *Notes:*	?	—	+
E19	(2) use in situations in which it is physically hazardous *Notes:*	?	—	+
E20	(3) recurrent substance-related legal problems *Notes:*	?	—	+
E21	(4) continued substance use despite having problems caused or exacerbated by the effects of the substance *Notes:*	?	—	+
E22	**AT LEAST ONE ABUSE ITEM IS "+"**	?	— → **E17** p. 43 **F1** p. 47	+ → **E32** p. 46

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

NONALCOHOL SUBSTANCE DEPENDENCE CRITERIA

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following occurring at any time in the same 12-month period:

E23	(3) often taken in larger amounts OR over a longer period than was intended *Notes:*	?	— +	E23
E24	(4) there is a persistent desire OR unsuccessful effort to cut down or control substance *Notes:*	?	— +	E24
E25	(5) a great deal of time is spent in activities necessary to obtain substance, use it, or recover from its effects *Notes:*	?	— +	E25
E26	(6) important social, occupational, or recreational activities given up or reduced because of use *Notes:*	?	— +	E26
E27	(7) continued use despite knowledge of having a persistent or recurrent physical or psychological problem *Notes:*	?	— +	E27

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

E28 (1) tolerance
Notes:

? – + **E28**

E29 (2) withdrawal
Notes:

? – + **E29**

E30 **AT LEAST THREE DEPENDENCE ITEMS ARE "+" AND OCCURRED WITHIN THE SAME 12-MONTH PERIOD**

? – + **E30**

→ **E18**, p. 44
E32, below

E31 Check:
___ **304.90 Amphetamine Dependence**
___ **304.30 Cannabis Dependence**
___ **304.20 Cocaine Dependence**
___ **304.50 Hallucinogen Dependence**
___ **304.60 Inhalant Dependence**
___ **304.00 Opioid Dependence**
___ **304.60 Phencyclidine Dependence**
___ **304.10 Sedative, Hypnotic, or Anxiolytic Dependence**
___ **304.90 Other (or Unknown) Substance Dependence**
Check here ___ if criteria have been met in the past month.

\+ ↓ **E31**

Substance Dependence

→ **F1** p. 47

E32 Check:
___ **305.70 Amphetamine Abuse**
___ **305.20 Cannabis Abuse**
___ **305.60 Cocaine Abuse**
___ **305.30 Hallucinogen Abuse**
___ **305.90 Inhalant Abuse**
___ **305.50 Opioid Abuse**
___ **305.90 Phencyclidine Abuse**
___ **305.40 Sedative, Hypnotic, or Anxiolytic Abuse**
___ **305.90 Other (or Unknown) Substance Use**
Check here ___ if criteria have been met in the past month.

\+ ↓ **E32**

Substance Abuse

→ **F1** p. 47

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F. ANXIETY AND OTHER DISORDERS

PANIC DISORDER CRITERIA

F1	A. (1) recurrent unexpected panic attacks *Notes:*	? – + F25 p. 50	F1
F2	A. (2) at least one of the following: (b) worry about the implications of the attack; (a) concern about having additional attacks; (c) a significant change in behavior *Notes:*	? – + F25 p. 50	F2
F3	Four (or more) of the following panic attack symptoms developed abruptly and reached a peak within 10 minutes *Notes:*	? – + F25 p. 50	F3
F4	(1) palpitations	? – +	F4
F5	(2) sweating	? – +	F5
F6	(3) trembling or shaking	? – +	F6
F7	(4) shortness of breath	? – +	F7
F8	(5) choking	? – +	F8
F9	(6) chest pain	? – +	F9
F10	(7) nausea or abdominal distress	? – +	F10
F11	(8) feeling dizzy	? – +	F11
F12	(9) derealization or depersonalization	? – +	F12
F13	(10) fear of losing control or going crazy	? – +	F13
F14	(11) fear of dying	? – +	F14
F15	(12) paresthesias	? – +	F15
F16	(13) chills or hot flashes	? – +	F16

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F17	**AT LEAST FOUR OF (1)–(13) ARE "+"**	? – + → **F25** p. 50	F17
F18	C. Not due to a substance or a general medical condition (check p. 60) *WARNING: A "YES" answer to the interview question equals a "–" rating* *Notes:*	? – + → **F25** p. 50	F18
F19	D. Not better accounted for by another mental disorder *Notes:*	? – + → **F25** p. 50	F19

Panic Disorder

F20	B. (1) the presence of Agoraphobia *Notes:*	? – + → **F24** p. 49	F20
F21	B. (2) agoraphobic situations are avoided, endured with marked distress or with anxiety, or require a companion *Notes:*	? – + → **F24** p. 49	F21
F22	B. (3) the anxiety or phobic avoidance is not better accounted for by another mental disorder *Notes:*	? – + → **F24** p. 49	F22

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F23 AGORAPHOBIA IS PRESENT
Check here___ if criteria have been met in the past month.

F23 + ↓

300.21 Panic Disorder With Agoraphobia

F25 p. 50

F24 AGORAPHOBIA IS ABSENT
Check here ___ if criteria have been met in the past month.

F24 + ↓

300.01 Panic Disorder Without Agoraphobia

F25 p. 50

OBSESSIVE-COMPULSIVE DISORDER CRITERIA

F25	*Obsessions:* (1) recurrent and persistent thoughts, impulses, or images *Notes:*	? – + → F30 below	F25
F26	(2) not simply excessive worries about real-life problems *Notes:*	? – + → F30 below	F26
F27	(3) the person attempts to ignore or suppress or neutralize such thoughts *Notes:*	? – + → F30 below	F27
F28	(4) the person recognizes that they are a product of his or her own mind *Notes:*	? – + → F30 below	F28
F29	**OBSESSIONS (1), (2), (3), AND (4) ARE "+"**	? – +	F29
F30	*Compulsions:* (1) repetitive behaviors or mental acts *Notes:*	? – + → F33 p. 51	F30

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F31	(2) the behaviors or mental acts are aimed at preventing or reducing distress *Notes:*	? – + → **F33** below	F31
F32	**COMPULSIONS (1) AND (2) ARE "+"**	? – +	F32
F33	**EITHER F29 IS "+" OR F32 IS "+"** (i.e., either obsessions or compulsions)	? – + → **F39** p. 52	F33
F34	B. The person has recognized that the obsessions or compulsions are excessive or unreasonable. *Notes:*	? – + → **F39** p. 52	F34
F35	C. The obsessions or compulsions are clinically significant. *Notes:*	? – + → **F39** p. 52	F35
F36	D. If another Axis I disorder is present, the content of the obsessions or compulsions is not restricted to it. *Notes:*	? – + → **F39** p. 52	F36

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F37

E. Not due to a substance or a general medical condition (check p. 60)
WARNING: A "YES" answer to the interview question equals a "–" rating
Notes:

Check here ___ if criteria have been met in the past month.

? – + F37

F39 below

F38 **OBSESSIVE-COMPULSIVE DISORDER CRITERIA A, B, C, D, AND E ARE "+"**
Check here ___ if criteria have been met in the past month.

F38

300.3 Obsessive-Compulsive Disorder

POSTTRAUMATIC STRESS DISORDER CRITERIA

F39

TRAUMATIC EVENTS LIST

F39

Brief description	**Date (month/yr)**	**Age**
_____	___/___	_____
_____	___/___	_____
_____	___/___	_____
_____	___/___	_____
_____	___/___	_____
_____	___/___	_____
_____	___/___	_____

A. The person has been exposed to a traumatic event in which both of the following were present:

F40 (1) the person experienced, witnessed, or was confronted with an event that involved death, serious injury, or a threat to the physical integrity of self or others
Notes:

? – + **F40**

– → **F65** p. 56

F41 (2) response involved intense fear, helplessness, or horror
Notes:

? – + **F41**

– → **F65** p. 56

B. The traumatic event is persistently reexperienced in one (or more) of the the following ways:

F42 (1) distressing recollections of the event
Notes:

? – + **F42**

F43 (2) dreams of the event
Notes:

? – + **F43**

F44 (3) acting or feeling as if the traumatic event were recurring
Notes:

? – + **F44**

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F45	(4) intense psychological distress at exposure to internal or external cues *Notes:*	? – +	F45
F46	(5) physiological reactivity on exposure to internal or external cues *Notes:*	? – +	F46
F47	**AT LEAST ONE "B" SYMPTOM IS "+"**	? – + → F65 p. 56	F47
	C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness, as indicated by three (or more) of the following:		
F48	(1) efforts to avoid thoughts, feelings, or conversations *Notes:*	? – +	F48
F49	(2) efforts to avoid activities, places, or people that arouse recollections of the trauma *Notes:*	? – +	F49
F50	(3) inability to recall an important aspect of the trauma *Notes:*	? – +	F50

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F51	(4) markedly diminished interest or participation in significant activities *Notes:*	? – +	F51
F52	(5) feeling of detachment or estrangement from others *Notes:*	? – +	F52
F53	(6) restricted range of affect (e.g., unable to have loving feelings) *Notes:*	? – +	F53
F54	(7) sense of a foreshortened future *Notes:*	? – +	F54
F55	**AT LEAST THREE "C" SYMPTOMS ARE "+"**	? – + → **F65** p. 56	F55
	D. Persistent symptoms of increased arousal as indicated by two (or more) of the following:		
F56	(1) difficulty falling or staying asleep	? – +	F56
F57	(2) irritability or outbursts of anger	? – +	F57
F58	(3) difficulty concentrating	? – +	F58
F59	(4) hypervigilance	? – +	F59
F60	(5) exaggerated startle response	? – +	F60
F61	**AT LEAST TWO "D" SYMPTOMS ARE "+"**	? – + → **F65** p. 56	F61

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F62	E. Duration of the disturbance is more than 1 month	? – + → F65 below	F62
F63	F. Clinically significant distress or impairment	? – + → F65 below	F63
F64	**POSTTRAUMATIC STRESS DISORDER CRITERIA A, B, C, D, E, AND F ARE "+"** Check here ____ if criteria have been met in the past month.	+ → **309.81 Post-traumatic Stress Disorder**	F64

OTHER ANXIETY DISORDERS

F65	**300.22 Agoraphobia Without History of Panic Disorder** Check here ___ if present in the past month.	? – +	F65
F66	**300.23 Social Phobia** Check here ___ if present in the past month.	? – +	F66
F67	**300.29 Specific Phobia** Check here ___ if present in the past month.	? – +	F67
F68	**300.02 Generalized Anxiety Disorder** Check here ___ if present in the past month.	? – +	F68

ANXIETY DISORDER NOT OTHERWISE SPECIFIED

F69 Clinically significant anxiety or phobic avoidance
Notes:

? – + **F69**

– → **F72** p. 58

F70 Not due to a substance or a general medical condition (check p. 60)
WARNING: A "YES" answer to the interview question equals a "–" rating
Notes:

? – + **F70**

– → **F72** p. 58

F71 Check here ___ if present in the past month.

+ → **300.0 Anxiety Disorder Not Otherwise Specified** **F71**

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

SOMATOFORM DISORDERS

F72	**300.81 Somatization Disorder OR** **300.82 Undifferentiated Somatoform Disorder** Check here ___ if present in the past month.	?	–	+	F72
F73	**300.7 Hypochondriasis** *Notes:* Check here ___ if present in the past month.	?	–	+	F73
F74	**300.7 Body Dysmorphic Disorder** *Notes:* Check here ___ if present in the past month.	?	–	+	F74

EATING DISORDERS

F75	**307.1 Anorexia Nervosa** *Notes:* Check here ___ if present in the past month.	?	–	+	F75
F76	**307.51 Bulimia Nervosa** *Notes:* Check here ___ if present in the past month.	?	–	+	F76

ADJUSTMENT DISORDERS CRITERIA

F77 A. The development of emotional or behavioral symptoms in response to an identifiable stressor(s)
Notes:
? – + **F77**
– → **END SCID**

F78 B. These symptoms or behaviors are clinically significant
Notes:
? – + **F78**
– → **END SCID**

F79 C. Does not meet criteria for another specific Axis I disorder and is not an exacerbation of a preexisting Axis I or Axis II disorder
Notes:
? – + **F79**
– → **END SCID**

F80 D. The symptoms do not represent Bereavement. *WARNING: A "YES" answer to the interview question equals a "–" rating*
Notes:
? – + **F80**
– → **END SCID**

F81 E. Once the stressor has terminated, the symptoms do not persist for more than an additional 6 months.
Notes:
? – + **F81**
– → **D17**, p. 39 **F69**, p. 57

F82 Make diagnosis of Adjustment Disorder based on predominant symptoms:
Check one:

___ **309.0 Adjustment Disorder With Depressed Mood**
___ **309.24 Adjustment Disorder With Anxiety**
___ **309.28 Adjustment Disorder With Mixed Anxiety and Depressed Mood**
___ **309.3 Adjustment Disorder With Disturbance of Conduct**
___ **309.4 Adjustment Disorder With Mixed Disturbance of Emotions and Conduct**
___ **309.9 Unspecified Adjustment Disorder**

F82
+ → **Adjustment Disorder**
END SCID

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

ANXIETY DISORDER DUE TO A GENERAL MEDICAL CONDITION CRITERIA

F87 p. 61

F83	A. Prominent anxiety, panic attacks, obsessions, or compulsions *Notes:*	? – +	F83
F84	B/C. The disturbance is the direct physiological consequence of a general medical condition, and the disturbance is not better accounted for by another mental disorder *Notes:*	? – + → F87 p. 61	F84
F85	E. The symptoms cause clinically significant distress or impairment *Notes:*	? – +	F85
F86	**CRITERIA A, B/C, AND E ARE "+"** **Specify etiological general medical condition:** Indicate type of anxiety symptoms: ___ With Generalized Anxiety ___ With Panic Attacks ___ With Obsessive-Compulsive Symptoms Check here ___ if criteria have been met in the past month.	– + ↓ **293.84 Anxiety Disorder Due to a General Medical Condition**	F86

F18, p. 48
F37, p. 52
F70, p. 57

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

SUBSTANCE-INDUCED ANXIETY DISORDER CRITERIA

F87	A. Prominent anxiety, panic attacks, obsessions or compulsions *Notes:*	? – +	F87
F88	B. Either: (1) the symptoms in A developed during or within a month of substance intoxication or withdrawal or (2) medication use is etiologically related to the disturbance *Notes:*	? – + **F18**, p. 48 **F37**, p. 52 **F70**, p. 57	F88
F89	C. The disturbance is not better accounted for by an Anxiety Disorder that is not substance-induced *Notes:*	? – + **F18**, p. 48 **F37**, p. 52 **F70**, p. 57	F89
F90	E. The symptoms cause clinically significant distress or impairment *Notes:*	? – + **F18**, p. 48 **F37**, p. 52 **F70**, p. 57	F90

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

F91

CRITERIA A, B, C, AND E ARE "+"
Code 291.8 for Alcohol, 292.89 for all other substances.
Specify substance: _____

Indicate type of anxiety symptoms:
___ With Generalized Anxiety
___ With Panic Attacks
___ With Obsessive-Compulsive Symptoms
___ With Phobic Symptoms

Check here ___ if criteria have been met in the past month.

– +

291.8/292.89 Substance-Induced Anxiety Disorder

F18, p. 48
F37, p. 52
F70, p. 57

F91

Ratings: ? = Inadequate information; – = Absent (or subthreshold); + = Present

DRUG LIST

Sedatives-hypnotics-anxiolytics ("downers")
Quaalude ("ludes"), Seconal ("reds"), Valium, Xanax, Librium, barbiturates, Miltown, Ativan, Dalmane, Halcion, Restoril

Cannabis
marijuana, hashish ("hash"), THC, "pot," "grass," "weed," "reefer"

Stimulants ("uppers")
amphetamine, "speed," crystal meth, dexadrine, Ritalin, diet pills, "ice"

Opioids
heroin, morphine, opium, Methadone, Darvon, codeine, Percodan, Demerol, Dilaudid

Cocaine
snorting, IV, freebase, crack, "speedball"

Hallucinogens ("psychedelics")
LSD ("acid"), mescaline, peyote, psilocybin, STP, mushrooms, Extasy, MDMA

PCP (phencyclidine)
"angel dust," Special K (ketamine)

Other
Steroids, "glue," ethyl chloride, paint, inhalants, nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers"), nonprescription sleep or diet pills

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Protocol	Centre Number	Patient Number	Patient Initials	Visit Date Day Mth Yr
29060/650				

CONFIDENTIAL

SmithKline Beecham
Pharmaceuticals

CLINICIAN-ADMINISTERED POST TRAUMATIC STRESS DISORDER SCALE FOR DSM-IV (CAPS2)

Current Diagnostic Version

Dudley D. Blake, Frank W. Weathers, Linda M. Nagy,
Danny G. Kaloupek, Dennis S. Charney & Terence M. Keane

National Center for Posttraumatic Stress Disorder

Behavioral Science Division - Boston VA Medical Center
Neurosciences Division - West Haven VA Medical Center

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Criterion B. The traumatic event is persistently reexperienced in one (or more) of the following ways:

1. **(B1)** recurrent and intrusive distressing recollections of the event, including images, thoughts or perceptions
   Note: In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.

Frequency

In the past week have you had unwanted memories of the event? What were they like? What did you remember? Did they ever occur while you were awake, or only in dreams? *(Exclude if memories occurred d during dreams)* **How often?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How much distress or discomfort did these memories cause you? Were you able to put them out of your min and think about something else? (How hard did you have to try?) **How much did they interfere with your l**

- ☐ 0. None
- ☐ 1. Mild, minimal distress or disruption of activities
- ☐ 2. Moderate, distress clearly present but still manageable, some disruption of activities
- ☐ 3. Severe, considerable distress, difficulty dismissing memories, marked disruption of activities
- ☐ 4. Extreme, incapacitating distress, cannot dismiss memories, unable to continue activities

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2. (B2) recurrent distressing dreams of the event. Note: In children, there may be frightening dreams without recognizable content.

Frequency

In the past week have you had unpleasant dreams about the event? Describe a typical dream. (What happens in them?) **How often?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How much distress or discomfort did these dreams cause you? Did they ever wake you up? (If yes, what happened when you woke up? How long did it take you to get back to sleep?) *(listen for report of anxious arousal, yelling, acting out the nightmare)* Did you dreams ever affect anyone else? How so?

- ☐ 0. None
- ☐ 1. Mild, minimal distress, may not have awoken
- ☐ 2. Moderate, awoke in distress but readily returned to sleep
- ☐ 3. Severe, considerable distress, difficulty returning to sleep
- ☐ 4. Extreme, incapacitating distress, did not return to sleep

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3. **(B3)** acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). Note: In young children, trauma-specific reenactment may occur.

Frequency

In the past week have you suddenly acted or felt as if the event were happening again? (Have you ever had flashbacks about the event, did this ever occur while you were awake or only in dreams? *(exclude if occurred only during dreams)*) Tell me more about that. **How often?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How much did it seem as if the event were happening again? (Were you confused about where you actually were or what you were doing at the time?) How long did it last? What did you do while this was happening? (Did other people notice your behaviour? What did they say?)

- ☐ 0. No reliving
- ☐ 1. Mild, somewhat more realistic than just thinking about the event
- ☐ 2. Moderate, definite but transient dissociative quality, still very aware of surroundings, daydreaming quality
- ☐ 3. Severe, strongly dissociative (reports images, sounds or smells), but retained some awareness of surroundings
- ☐ 4. Extreme, complete dissociation (flashback), no awareness of surroundings, may be unresponsive, possible amnesia for the episode (blackout)

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4. (B4) intense psychological distress at exposure to internal or external cues that symbolise or resemble an aspect of the traumatic event

Frequency

In the past week have you gotten emotionally upset when something reminded you of the event? (Has anything ever triggered bad feelings related to the event?) What kinds of reminders made you upset? **How often?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How much distress or discomfort did reminders cause you? How long did it last? How much did it interfere with your life?

- ☐ 0. None
- ☐ 1. Mild, minimal distress or disruption of activities
- ☐ 2. Moderate, distress clearly present but still manageable, some disruption of activities
- ☐ 3. Severe, considerable distress, marked disruption of activities
- ☐ 4. Extreme, incapacitating distress, unable to continue activities

5. **(B5)** physiological reactivity on exposure to internal or external cues that symbolise or resemble an aspect the traumatic event.

Frequency

In the past week have you had any physical reactions when something reminded you of the event? (Did your body ever react in some way when something reminded you of the event?) Can you give me some examples (Did your heart race or did your breathing change? What about sweating or feeling really tense or shaky?) W kinds of reminders triggered these reactions? **How often?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How strong were the physical reactions? How long did they last? (Did they last even after you were out of th situation?)

- ☐ 0. No physical reactivity
- ☐ 1. Mild, minimal reactivity
- ☐ 2. Moderate, physical reactivity clearly present, may be sustained if exposure continues
- ☐ 3. Severe, marked physical reactivity, sustained throughout exposure
- ☐ 4. Extreme, dramatic physical reactivity, sustained arousal even after exposure has ended

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Criterion C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

6. (C1) efforts to avoid thoughts, feelings or conversations associated with the trauma

Frequency

In the past week have you tried to avoid thoughts or feelings about the event? (What kind of thoughts or feelings did you try to avoid?) What about trying to avoid talking with other people about it? (Why is that?) **How often?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How much effort did you make to avoid thoughts/feelings/conversations? (What kinds of things did you do? What about drinking or using medication or street drugs?) *(Consider all attempts at avoidance, including distraction, suppression and use of alcohol/drugs)* **How much did that interfere with your life?**

- ☐ 0. None
- ☐ 1. Mild, minimal effort, little or no disruption of activities
- ☐ 2. Moderate, some effort, avoidance definitely present, some disruption of activities
- ☐ 3. Severe, considerable effort, marked avoidance, marked disruption of activities or involvement in certain activities as avoidant strategy
- ☐ 4. Extreme, drastic attempts at avoidance, unable to continue activities or excessive involvement in certain activities as avoidant strategy

7. (C2) efforts to avoid activities, places or people that arouse recollections of the trauma

Frequency

In the past week, have you ever tried to avoid certain activities, places or people that reminded you of event? (What kinds of things did you avoid? Why is that?) **How often ?**

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How much effort did you make to avoid activities, places or people? (What did you do instead?) How that interfere with your life?

- ☐ 0. None
- ☐ 1. Mild, minimal effort, little or no disruption of activities
- ☐ 2. Moderate, some effort, avoidance definitely present, some disruption of activities
- ☐ 3. Severe, considerable effort, marked avoidance, marked disruption of activities or involve certain activities as avoidant strategy
- ☐ 4. Extreme, drastic attempts at avoidance, unable to continue activities or excessive involve certain activities as avoidant strategy

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8. (C3) inability to recall an important aspect of the trauma

Frequency

In the past week have you had difficulty remembering some important parts of the event? Tell me more about that. (Do you feel you should be able to remember these things? Why do you think you cannot?) **How much of the important parts of the event have you had difficulty remembering?** (What parts do you still remember?)

- ☐ 0. None, clear memory
- ☐ 1. Few aspects not remembered (less than 10%)
- ☐ 2. Some aspects not remembered (approx 20-30%)
- ☐ 3. Many aspects not remembered (approx 50-60%)
- ☐ 4. Most or all aspects not remembered (> 80%)

Description/Examples

Intensity

How much difficulty did you have recalling important parts of the event? (Were you able to recall more if you tried?)

- ☐ 0. None
- ☐ 1. Mild, minimal difficulty
- ☐ 2. Moderate, some difficulty, could recall with effort
- ☐ 3. Severe, considerable difficulty, even with effort
- ☐ 4. Extreme, completely unable to recall important aspects of the event.

9. (C4) markedly diminished interest or participation in significant activities

Frequency

In the past week have you been less interested in activities that you used to enjoy? (What kinds of thing you lost interest in? Are there some things you do not do at all anymore? Why is that?) *(exclude if no opportunity, if physically unable or if developmentally appropriate change in preferred activities)* **How ma activities have you been less interested in?** (What kinds of things do you still enjoy doing?) When di first start to feel that way? (After the event?)

- ☐ 0. None
- ☐ 1. Few activities (less than 10 %)
- ☐ 2. Some activities (approx 20-30 %)
- ☐ 3. Many activities (approx 50-60 %)
- ☐ 4. Most or all activities (> 80 %)

Description/Examples

Intensity

How strong was your loss of interest? (Would you enjoy the activities once you got started?)

- ☐ 0. No loss of interest
- ☐ 1. Mild, slight loss of interest, probably would enjoy after starting activities
- ☐ 2. Moderate, definite loss of interest, but still has some enjoyment of activities
- ☐ 3. Severe, marked loss of interest in activities
- ☐ 4. Extreme, complete loss of interest, no longer participates in any activities

Trauma-related?

- ☐ Yes
- ☐ No

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10. (C5) feeling of detachment or estrangement from others

Frequency

In the past week have you felt distant or cut off from other people? What was that like? **How much of the time have you felt that way?** When did you first start to feel that way? (After the event?)

- ☐ 0. None of the time
- ☐ 1. Very little of the time (less than 10%)
- ☐ 2. Some of the time (approx 20-30%)
- ☐ 3. Much of the time (approx 50-60%)
- ☐ 4. Most or all of the time (> 80%)

Description/Examples

Intensity

How strong were your feelings of being distant or cut off from others ?(Who do you feel closest to? How many people do you feel comfortable talking with about personal things?)

- ☐ 0. No feelings of detachment or estrangement
- ☐ 1. Mild, may feel 'out of synch' with others
- ☐ 2. Moderate, feelings of detachment clearly present, but still feels some interpersonal connection
- ☐ 3. Severe, marked feelings of detachment or estrangement from most people, may feel close to only one or two people
- ☐ 4. Extreme, feels completely detached or estranged from others, not close with anyone

Trauma-related?

- ☐ Yes
- ☐ No

11. (C6) restricted range of affect (eg unable to have loving feelings)

Frequency

In the past week have there been times when you felt emotionally numb or had trouble experiencing feeli love or happiness? What was that like? (What feelings did you have trouble experiencing?) **How much o time?** When did you first start having trouble experiencing emotions? (After the event?)

- ☐ 0. None of the time
- ☐ 1. Very little of the time (less than 10%)
- ☐ 2. Some of the time (approx 20-30%)
- ☐ 3. Much of the time (approx 50-60%)
- ☐ 4. Most or all of the time (> 80%)

Description/Examples

Intensity

How much trouble did you have experiencing emotions? (What kinds of feelings were you still able to experience?) *(Include observations of range of affect during interview)*

- ☐ 0. No reduction of emotional experience
- ☐ 1. Mild, slight reduction of emotional experience
- ☐ 2. Moderate, definite reduction of emotional experience, but still able to experience most emot
- ☐ 3. Severe, marked reduction of experience of at least two primary emotions (eg, love, happine
- ☐ 4. Extreme, completely lacking emotional experience

Trauma-related?

- ☐ Yes
- ☐ No

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12. (C7) sense of a foreshortened future (eg, does not expect to have a career, marriage, children or a no life span)

Frequency

In the past week have there been times when you felt there is no need to plan for the future, that somehow future will be cut short? Why is that? *(Rule out realistic risks such as life-threatening medical conditions)* **How much of the time?** When did you first starting to feel that way? (After the event?)

- ☐ 0. None of the time
- ☐ 1. Very little of the time (less than 10%)
- ☐ 2. Some of the time (approx 20-30%)
- ☐ 3. Much of the time (approx 50-60%)
- ☐ 4. Most or all of the time (> 80%)

Description/Examples

Intensity

How strong was this feeling that your future will be cut short? (How long do you think you will live? How convinced are you that you will die prematurely?)

- ☐ 0. No sense of a foreshortened future
- ☐ 1. Mild, slight sense of a foreshortened future
- ☐ 2. Moderate, sense of a foreshortened future definitely present, but no specific prediction about
- ☐ 3. Severe, marked sense of a foreshortened future, may make specific prediction about longevity
- ☐ 4. Extreme, overwhelming sense of a foreshortened future, completely convinced of premature d

Trauma-related?

- ☐ Yes
- ☐ No

Criterion D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by tw more) of the following:

13. (D1) difficulty falling or staying asleep

Frequency

In the past week have you had any problems falling or staying asleep? **How often?** When did you first sta having problems sleeping? (After the event?)

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Nightly or almost every night

	Yes	No
Sleep onset problems?	☐	☐
Mid-sleep awakening?	☐	☐
Early a.m. awakening?	☐	☐

Total number of hours sleep per night ☐☐

Desired number of hours sleep per night ☐☐

Description/Examples

Intensity

How much of a problem did you have with your sleep? (How long did it take you to fall asleep? How often you wake up in the night? Did you often wake up earlier than you wanted to? How many total hours did y each night?)

- ☐ 0. No sleep problems
- ☐ 1. Mild, slightly longer latency, or minimal difficulty staying asleep (up to 30 minutes loss of slee
- ☐ 2. Moderate, definite sleep disturbance, clearly longer latency, or clear difficulty staying asleep (minutes loss of sleep)
- ☐ 3. Severe, much longer latency, or marked difficulty staying asleep (90min to 3 hrs loss of sleep
- ☐ 4. Extreme, very long latency, or profound difficulty staying asleep (> 3 hrs loss of sleep)

Trauma-related?

- ☐ Yes
- ☐ No

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14. (D2) irritability or outbursts of anger

Frequency

In the past week have there been times when you felt especially irritable or showed strong feelings of anger? Can you give me some examples? **How often?** When did you first start feeling that way? (After the event?)

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How strong was you anger? (How did you show it? *(If reports suppression:)* How hard was it for you to keep from showing your anger?) How long did it take you to calm down? Did your anger cause you any problems?

- ☐ 0. No irritability or anger
- ☐ 1. Mild, minimal irritability, may raise voice when angry
- ☐ 2. Moderate, definite irritability or attempts to suppress anger, but can recover quickly
- ☐ 3. Severe, marked irritability or marked attempts to suppress anger, may become verbally or physically aggressive when angry
- ☐ 4. Extreme, pervasive anger or drastic attempts to suppress anger, may have episodes of physical violence

Trauma-related?

- ☐ Yes
- ☐ No

15. (D3) difficulty concentrating

Frequency

In the past week have you found it difficult to concentrate on what you were doing or on things going on you? What was that like? **How much of the time?** When did you first start having trouble concentrating the event?)

- ☐ 0. None of the time
- ☐ 1. Very little of the time (less than 10%)
- ☐ 2. Some of the time (approx 20-30%)
- ☐ 3. Much of the time (approx 50-60%)
- ☐ 4. Most or all of the time (> 80%)

Description/Examples

Intensity

How difficult was it for you to concentrate? *(Include observations of concentration and attention in inter* How much did that interfere with your life?

- ☐ 0. No difficulty with concentration
- ☐ 1. Mild, only slight effort needed to concentrate, little or no disruption of activities
- ☐ 2. Moderate, definite loss of concentration but could concentrate with effort, some disruption
- ☐ 3. Severe, marked loss of concentration, even with effort, marked disruption of activities
- ☐ 4. Extreme, complete inability to concentrate, unable to engage in activities

Trauma-related?

- ☐ Yes
- ☐ No

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16. (D4) hypervigilance

Frequency

In the past week have you been especially alert or watchful, even when there was no real need to be? (Have you felt as if you were constantly on guard?) Why is that? **How much of the time?** When did you first start acting that way? (After the event?)

- ☐ 0. None of the time
- ☐ 1. Very little of the time (less than 10%)
- ☐ 2. Some of the time (approx 20-30%)
- ☐ 3. Much of the time (approx 50-60%)
- ☐ 4. Most or all of the time (> 80%)

Description/Examples

Intensity

How hard did you try to be watchful of things going on around you? *(Include observations of hypervigilance in interview)* Did your hypervigilance cause you any problems?

- ☐ 0. No hypervigilance
- ☐ 1. Mild, minimal hypervigilance, slight heightening of awareness
- ☐ 2. Moderate, hypervigilance clearly present, watchful in public (eg, chooses safe place to sit in a restaurant or movie theatre)
- ☐ 3. Severe, marked hypervigilance, very alert, scans environment for danger, exaggerated concern for safety of self/family/home
- ☐ 4. Extreme, excessive hypervigilance, efforts to ensure safety consume significant time and energy and may involve extensive safety/checking behaviours, marked watchfulness during interview

Trauma-related?

- ☐ Yes
- ☐ No

17. (D5) exaggerated startle response

Frequency

In the past week have you had any strong startle reactions? When did that happen? (What kinds of things you startle?) **How often?** When did you first have these reactions? (After the event?)

- ☐ 0. Never
- ☐ 1. Once
- ☐ 2. Two or three times
- ☐ 3. Four or five times
- ☐ 4. Daily or almost every day

Description/Examples

Intensity

How strong were these startle reactions? (How strong were they compared to how most people would respond?) How long did they last?

- ☐ 0. No startle reaction
- ☐ 1. Mild, minimal reaction
- ☐ 2. Moderate, definite startle reaction, feels 'jumpy'
- ☐ 3. Severe, marked startle reaction, sustained arousal following initial reaction
- ☐ 4. Extreme, excessive startle reaction, overt coping behaviour (eg, combat veteran who 'hits th

Trauma-related?

- ☐ Yes
- ☐ No

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Criterion F. The disturbance causes clinically significant distress or impairment in social, occupational or other important areas of functioning.

20. subjective distress

Overall, how much have you been bothered by these symptoms you've told me about? *(Consider distress reported on earlier items)*

- ☐ 0. None
- ☐ 1. Mild, minimal distress
- ☐ 2. Moderate, distress clearly present but still manageable
- ☐ 3. Severe, considerable distress
- ☐ 4. Extreme, incapacitating distress

21. impairment in social functioning

Have these symptoms affected your relationships with other people? How so? *(Consider impairment in social functioning reported on earlier items)*

- ☐ 0. No adverse impact
- ☐ 1. Mild impact, minimal impairment in social functioning
- ☐ 2. Moderate impact, definite impairment, but many aspects of social functioning still intact
- ☐ 3. Severe impact, marked impairment, few aspects of social functioning still intact
- ☐ 4. Extreme impact, little or no social functioning

22. impairment in occupational or other important area of functioning

Are you working now?

☐ Yes ⟶ If 'Yes', in the past week have these symptoms affected your work or your ab work? How so?

(Consider reported work history, including number and duration of jobs, as w quality of work relationships. If premorbid functioning is unclear, inquire about experiences before the trauma. For child/adolescent traumas, assess pre-tra school performance and possible presence of behaviour problems)

- ☐ 0. No adverse impact
- ☐ 1. Mild impact, minimal impairment in occupational functioning
- ☐ 2. Moderate impact, definite impairment, but many aspects of occup functioning still intact
- ☐ 3. Severe impact, marked impairment, few aspects of occupational functioning still intact
- ☐ 4. Extreme impact, little or no occupational functioning

☐ No ⟶ If 'No' have these symptoms affected any other important part of your life? H

(As appropriate, suggest examples such as parenting, housework, schoolwo volunteer work etc.)

- ☐ 0. No adverse impact
- ☐ 1. Mild impact, minimal impairment in other important functioning
- ☐ 2. Moderate impact, definite impairment, but many aspects of other functioning still intact
- ☐ 3. Severe impact, marked impairment, few aspects of other importa functioning still intact
- ☐ 4. Extreme impact, little or no other important functioning

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Global Ratings

23. global validity

Estimate the overall validity of responses. Consider factors such as compliance with the interview, mental st (eg, problems with concentration, comprehension of items, dissociation) and evidence of efforts to exaggera or minimise symptoms.

- ☐ 0. Excellent, no reason to suspect invalid responses
- ☐ 1. Good, factors present that may adversely affect validity
- ☐ 2. Fair, factors present that definitely reduce validity
- ☐ 3. Poor, substantially reduced validity
- ☐ 4. Invalid responses, severely impaired mental status or possible deliberate 'faking bad' or 'faking g

Clinical Outcomes in Routine Evaluation (F)

Client ID (initials) ☐☐

Client ID (unit number) ☐☐☐☐☐☐

Therapy type ☐☐
01 = CBT 04 = CAT
02 = BT 05 = DBT
03 = IPT
(other - see codes)

Age ☐☐

Sex M☐ F☐

Client type ☐RC ☐CE ☐CO

Therapist initials ☐☐☐

Stage completed
☐ assessment / pre-therapy
☐ during therapy
☐ post-therapy ☐ follow-up
Number of sessions : ☐☐

Mode of therapy ☐☐
01 = individual only
02 = individual + group
03 = couple 05 = OEG
04 = family 06 = Bulimia gp
(other - see codes)

SITE ID 112

Date form given D D / M M / Y Y Y Y

IMPORTANT- please read this first

This form has 34 statements about how you have been OVER THE LAST WEEK. Please read each statement and think about how often you felt that way last week. Then tick the boxes that most closely reflect this. Please use a dark pen (not pencil) as the sheets will be scanned by computer, and tick the boxes clearly.

Thank you for your co-operation.

	not at all	only occasionally	some-times	often	most / all the time	
1 I have felt terribly alone and isolated	☐0	☐1	☐2	☐3	☐4	f
2 I have felt tense, anxious or nervous	☐0	☐1	☐2	☐3	☐4	p
3 I have felt I have someone to turn to for support when needed	☐4	☐3	☐2	☐1	☐0	f
4 I have felt OK about myself	☐4	☐3	☐2	☐1	☐0	w
5 I have felt totally lacking in energy and enthusiasm	☐0	☐1	☐2	☐3	☐4	p
6 I have been physically violent to others	☐0	☐1	☐2	☐3	☐4	r
7 I have felt able to cope when things go wrong	☐4	☐3	☐2	☐1	☐0	f
8 I have been troubled by aches, pains or other physical problems	☐0	☐1	☐2	☐3	☐4	p
9 I have thought of hurting myself	☐0	☐1	☐2	☐3	☐4	r
10 Talking to people has felt too much for me	☐0	☐1	☐2	☐3	☐4	f
11 Tension and anxiety have prevented me doing important things	☐0	☐1	☐2	☐3	☐4	p
12 I have been happy with the things I have done	☐4	☐3	☐2	☐1	☐0	f
13 I have been disturbed by unwanted thoughts and feelings	☐0	☐1	☐2	☐3	☐4	p
14 I have felt like crying	☐0	☐1	☐2	☐3	☐4	w

PLEASE TURN OVER

OVER THE LAST WEEK ..	not at all	only occasionally	some-times	often	most / all the time	
15 I have felt panic or terror	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
16 I made plans to end my life	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	r
17 I have felt overwhelmed by my problems	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	w
18 I have had difficulty getting to sleep or staying asleep	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
19 I have felt warmth or affection for someone	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0	f
20 My problems have been impossible to put to one side	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
21 I have been able to do most things I needed to	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0	f
22 I have threatened or intimidated another person	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	r
23 I have felt despairing or hopeless	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
24 I have thought it would be better if I were dead	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	r
25 I have felt criticised by other people	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	f
26 I have thought I have no friends	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	f
27 I have felt unhappy	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
28 Unwanted images or memories have been distressing me	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
29 I have been irritable when with other people	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	f
30 I have thought I am to blame for my problems and difficulties	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	p
31 I have felt optimistic about my future	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0	w
32 I have achieved the things I wanted to	☐ 4	☐ 3	☐ 2	☐ 1	☐ 0	f
33 I have felt humiliated or shamed by other people	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	f
34 I have hurt myself physically or taken dangerous risks with my health	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	r

THANK YOU FOR YOUR TIME IN COMPLETING THIS QUESTIONNAIRE

OFFICE USE ONLY							
Total scores	____ ↓	____ ↓	____ ↓	____ ↓	→ ____ ↓	→ ____ ↓	
Mean scores (Total score for each dimension by number of items completed in that dimension)	____ w (4)	____ p (12)	____ f(12)	____ r(6)	____ ALL	____ ALL minus s	

SIGNIFICANT OTHERS SCALE (B)

Name: .....

Date: ..... **Record Number:** .....

Instructions

Please list below up to seven people who may be important in the individual's life. Typical relationships include partner, mother, father, child, sibling, close friends, plus keyworker. For each person please circle a number from 1 to 7 to show how well he or she provides the type of help that is listed.

The second part of each question asks you to rate how individuals would like things to be if they were exactly as they hoped for. As before, please put a circle around one number between 1 and 7 to show what the rating is.

Person 1 –	*Never*			*Sometimes*			*Always*
1 a) Can you trust, talk to frankly and share your feelings with this person?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
2 a) Can you lean on and turn to this person in times of difficulty? ..	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
3 a) Does he/she give you practical help?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
4 a) Can you spend time with him/her socially?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
Person 2 –							
1 a) Can you trust, talk to frankly and share your feelings with this person?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
2 a) Can you lean on and turn to this person in times of difficulty? ..	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
3 a) Does he/she give you practical help?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
4 a) Can you spend time with him/her socially?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
Person 3 –							
1 a) Can you trust, talk to frankly and share your feelings with this person?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
2 a) Can you lean on and turn to this person in times of difficulty?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
3 a) Does he/she give you practical help?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7
4 a) Can you spend time with him/her socially?	1	2	3	4	5	6	7
b) What rating would your ideal be?	1	2	3	4	5	6	7

PLEASE CIRCLE ONE NUMBER ONLY FOR EACH QUESTION

Appendix A

Impact of Event Scale-Revised

Instructions: Below is a list of difficulties people sometimes have after stressful life events. Please read each item and then indicate how distressing each difficulty has been for you DURING THE PAST SEVEN DAYS with respect to _____, how much were you distressed or bothered by these difficulties?

	Not at all	A little bit	Moder-ately	Quite a bit	Extremely
1. Any reminder brought back feelings about it.	0	1	2	3	4
2. I had trouble staying asleep.	0	1	2	3	4
3. Other things kept making me think about it.	0	1	2	3	4
4. I felt irritable and angry.	0	1	2	3	4
5. I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	2	3	4
6. I thought about it when I didn't mean to.	0	1	2	3	4
7. I felt as if it hadn't happened or wasn't real.	0	1	2	3	4
8. I stayed away from reminders about it.	0	1	2	3	4
9. Pictures about it popped into my mind.	0	1	2	3	4
10. I was jumpy and easily startled.	0	1	2	3	4
11. I tried not to think about it.	0	1	2	3	4
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	2	3	4
13. My feelings about it were kind of numb.	0	1	2	3	4
14. I found myself acting or feeling like I was back at that time.	0	1	2	3	4
15. I had trouble falling asleep.	0	1	2	3	4
16. I had waves of strong feelings about it.	0	1	2	3	4

	Not at all	A little bit	Moder-ately	Quite a bit	Extremely
17. I tried to remove it from my memory.	0	1	2	3	4
18. I had trouble concentrating.	0	1	2	3	4
19. Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.	0	1	2	3	4
20. I had dreams about it.	0	1	2	3	4
21. I felt watchful and on-guard.	0	1	2	3	4
22. I tried not to talk about it.	0	1	2	3	4

Impact of Event Scale - Revised

Scoring Information

Avoidance Subscale = mean of items 5, 7, 8, 11, 12, 13, 17, 22

Intrusion Subscale = mean of items 1, 2, 3, 6, 9, 16, 20

Hyperarousal Subscale = mean of items 4, 10, 14, 15, 18, 19, 21

Assessing Psychological Trauma and PTSD
A Handbook for Practitioners
Chapter 15: The Impact of Event Scale-Revised

by Daniel S. Weiss, PhD
& Charles R. Marmar, MD
Department of Psychiatry, University of California, San Francisco
& PTSD Program, San Francisco VA Medical Center

Correspondence to Dr. Weiss
UCSF Box 0984
Department of Psychiatry
San Francisco, CA 94143-0984
Tel: (415) 221-4810x3080
Fax: (415) 750-6921

In J.P Wilson, & T.M. Keane (eds.), Assessing psychological trauma and PTSD: A Practioner's Handbook. New York: Guilford.

We would like to know about how you feel **IN GENERAL**.

The question asks about **HOW OFTEN** you feel the emotion.

For each question, please circle **ONE** number only between 1 and 7 to indicate how you feel.

IN GENERAL, I FEEL THIS EMOTION:

	never			Sometimes			Very often
ANGER	1	2	3	4	5	6	7
DESPAIR	1	2	3	4	5	6	7
SHAME	1	2	3	4	5	6	7
ANXIETY	1	2	3	4	5	6	7
HAPPINESS	1	2	3	4	5	6	7
FRUSTRATION	1	2	3	4	5	6	7
MISERY	1	2	3	4	5	6	7
GUILT	1	2	3	4	5	6	7
NERVOUSNESS	1	2	3	4	5	6	7
JOY	1	2	3	4	5	6	7
IRRITATION	1	2	3	4	5	6	7
GLOOMINESS	1	2	3	4	5	6	7
HUMILIATED	1	2	3	4	5	6	7
TENSE	1	2	3	4	5	6	7
LOVING	1	2	3	4	5	6	7
AGGRESSION	1	2	3	4	5	6	7
MOURNFUL	1	2	3	4	5	6	7
BLAMEWORTHY	1	2	3	4	5	6	7
WORRIED	1	2	3	4	5	6	7
CHEERFUL	1	2	3	4	5	6	7

DISSOCIATION QUESTIONNAIRE
(DIS-Q)

This questionnaire consists of two parts. The first part contains a few general questions about your background. In the second part you are asked to indicate to what extent the following experiences apply to you. The experiences mentioned in the questionnaire may occur when people are under the influence of alcohol, drugs or medicines. it is intended to answer this questionnaire regarding your condition without the use of any such means. You are asked to react to the statements by circling the figure that applies to you. Any answer is good, so long as it reflects your own view.

Please react to all (of the) statements.

Example

To what extent does the following statement apply to you.

I find it hard to make up my mind. 1 2 (3) 4 5

By circling one of the figures, you can indicate whether that statement is more or less applicable to you. If the statement "moderately", like in the above mentioned example, is applicable to you, you will circle figure 3. Against each statement, you will put a figure that is most applicable to you.

1 = this is not at all applicable

2 = this a little bit applicable

3 = this is moderately applicable

4 = this is quite a bit applicable

5 = this is extremely applicable

Vanderlinden-Van Dyck-Vertommen-Vandereycken
Universitair Centrum St. Jozef
Leuvensesteenweg, 517
3070 KORTENBERG - BELGIUM

PART 1

NAME : .....
DATE : .....

Will you please fill in and cross where appropriate ?

Your age : .....years

Your sex : O male
O female

Your marital status : O Single
O Married
O Living together
O Divorced
O Widower / Widow

IGNORE

Your training : O Elementary education

O First-grade secondary : O general educational
O technical
O vocational

O Second-grade secondary: O general educational
O technical
O vocational

O Higher non-university

O University training

(Please cross the training that corresponds most to your own training).

Do you remember having experienced severely damaging, life-threatening or traumatic events?

O No

O Yes, i.e. (several answers being possible) :
O severe bodily injury
O physical abuse
O state of war
O sexual abuse by family members
O sexual abuse by others (non-family members)
O emotional maltreatment
O otherwise : namely :

PART 2

1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = extremely.

1. At times I have the feeling that I am dreaming.	1	2	3	4	5
2. I regularly have the feeling that everything is unreal.	1	2	3	4	5
3. At times it appears that I have lost contact with my body.	1	2	3	4	5
4. I gorge myself with food without thinking about it.	1	2	3	4	5
5. While driving and / or bicycling, I suddenly realize that I cannot remember what happened on the way.	1	2	3	4	5
6. I can, without reason, without wanting to, burst out laughing or crying.	1	2	3	4	5
7. It happens that I have the feeling that I am somebody else.	1	2	3	4	5
8. It happens that I am listening to someone and suddenly realize that I have not heard part or the whole of the story.	1	2	3	4	5
9. When I am tired, it seems as if a strange power from outside takes possession of me and decides for me what to do.	1	2	3	4	5
10. I get into situations in which I do not want to be.	1	2	3	4	5
11. At times I feel a great distance between myself and the things I think and do.	1	2	3	4	5
12. At times I wonder who I am exactly	1	2	3	4	5
13. It happens that I find new articles among my things without being able to remember having ever purchased these.	1	2	3	4	5
14. I regularly feel an urge to eat something, even when I am not hungry.	1	2	3	4	5
15. It happens that I get angry without wanting to be at all.	1	2	3	4	5
16. It happens that I am determined to do something, but my body acts quite differently against my own will.	1	2	3	4	5
17. It happens that I feel confused.	1	2	3	4	5
18. At moments I cannot remember where I was the day (or days) before.	1	2	3	4	5

1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = extremely.

19. It happens that I am told that I act as if friends or family members were strangers to me.	1	2	3	4	5
20. In particular situations I experience myself as a split personality.	1	2	3	4	5
21. It happens that I cannot remember anything about certain important events in my life, such as my final examinations or wedding-day.	1	2	3	4	5
22. It happens that I am about to say something, but then something quite different crosses my lips.	1	2	3	4	5
23. There can be a sudden, complete change in my mood.	1	2	3	4	5
24. It happens that I do something without thinking about it.	1	2	3	4	5
25. I immediately forget what other people tell me.	1	2	3	4	5
26. It happens that I am doing something and that I am suddenly struck by a black-out.	1	2	3	4	5
27. It occurs that I look at myself in the mirror without recognizing myself.	1	2	3	4	5
28. It happens that I get the feeling that my body undergoes an alteration.	1	2	3	4	5
29. It happens that I have the feeling that other people, other things and the world surrounding me, are not real.	1	2	3	4	5
30. I have the feeling that my body is not (really) mine.	1	2	3	4	5
31. When I watch television, I do not notice anything about what goes on around me.	1	2	3	4	5
32. It happens that entire blocks of time drop out and that I cannot remember what I did then.	1	2	3	4	5
33. I can remember so vividly something that happened formerly, that I have the feeling that I am reliving it.	1	2	3	4	5
34. It happens that it seems as if someone else inside me decides what I do.	1	2	3	4	5

1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = extremely.

35. Sometimes I discover that I have done something without remembering anything about it.	1	2	3	4	5
36. I wonder how I can prevent myself from doing certain things.	1	2	3	4	5
37. Sometimes I suddenly notice that I find myself in a place that is unknown to me, without knowing how I got there.	1	2	3	4	5
38. It happens that I am not sure whether certain memories have really taken place, or if I merely dreamed about them.	1	2	3	4	5
39. Sometimes I find myself in a well-known place that appears strange and unknown to me.	1	2	3	4	5
40. I have the feeling that I do certain things without knowing why.	1	2	3	4	5
41. Sometimes I think or do something against my liking in a way that does not suit me at all.	1	2	3	4	5
42. I notice that I watch myself closely in everything I do.	1	2	3	4	5
43. I can enclose myself in fantasies or day-dreaming so much that it seems to be really happening.	1	2	3	4	5
44. It happens that I am staring aimlessly, without thinking about anything.	1	2	3	4	5
45. I often think about nothing.	1	2	3	4	5
46. I find it very hard to resist bad habits.	1	2	3	4	5
47. I sometimes forget where I have put something.	1	2	3	4	5
48. When eating, I do so without thinking about it.	1	2	3	4	5
49. It happens that I catch myself day-dreaming.	1	2	3	4	5
50. I wish I had more control of myself.	1	2	3	4	5
51. When I walk, I am aware of each step I make.	1	2	3	4	5
52. In particular situations, I notice that I am able to do certain things with the greatest ease, that I find very hard to do in others (e.g. sports, work, social contacts)	1	2	3	4	5

1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = extremely.

53. When eating, I am aware of every bite I take.	1	2	3	4	5
54. I lose every notion of time.	1	2	3	4	5
55. It happens that I cannot remember whether I have really done something or if I merely planned it.	1	2	3	4	5
56. It happens that I want to do two things at the same time and that I notice that I am arguing with myself the pros. and cons.	1	2	3	4	5
57. It happens that I have the feeling that my mind is split up.	1	2	3	4	5
58. It happens that I find notes, drawings or annotations of my own, without remembering having ever made these.	1	2	3	4	5
59. I have the feeling that I am made up of two (or more) persons.	1	2	3	4	5
60. I often do something without thinking about it.	1	2	3	4	5
61. It happens that I hear voices in my head telling me what I am to do or making comment on what I am doing.	1	2	3	4	5
62. I see myself differently from the way other people see me.	1	2	3	4	5
63. It happens that I feel that I am looking at the world through a haze, so that the people and things surrounding me appear remote or vague.	1	2	3	4	5